OIPE
SEP 9 1 2005
PATENT & TRADEMARK OFFICE

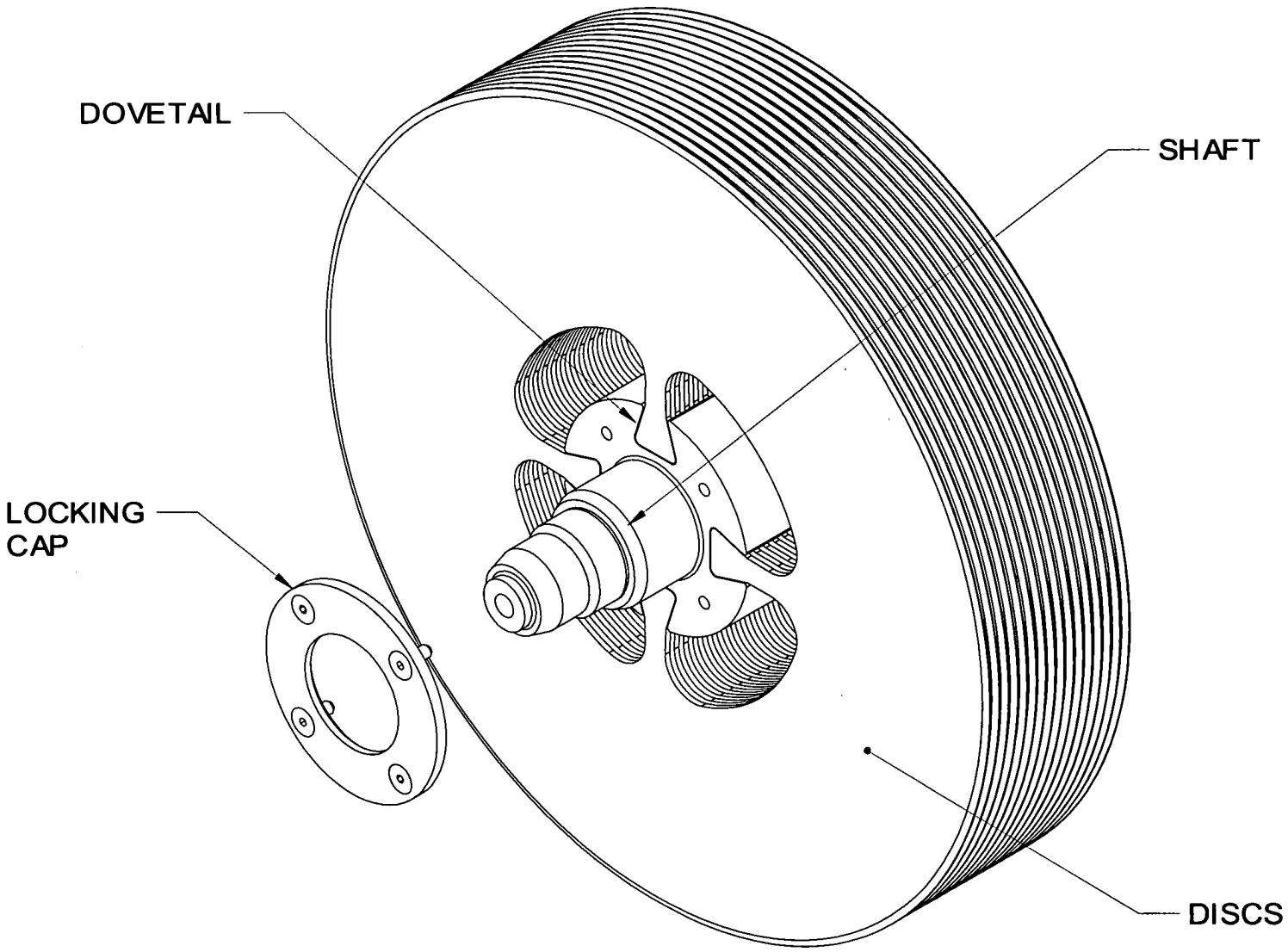

FIGURE 2

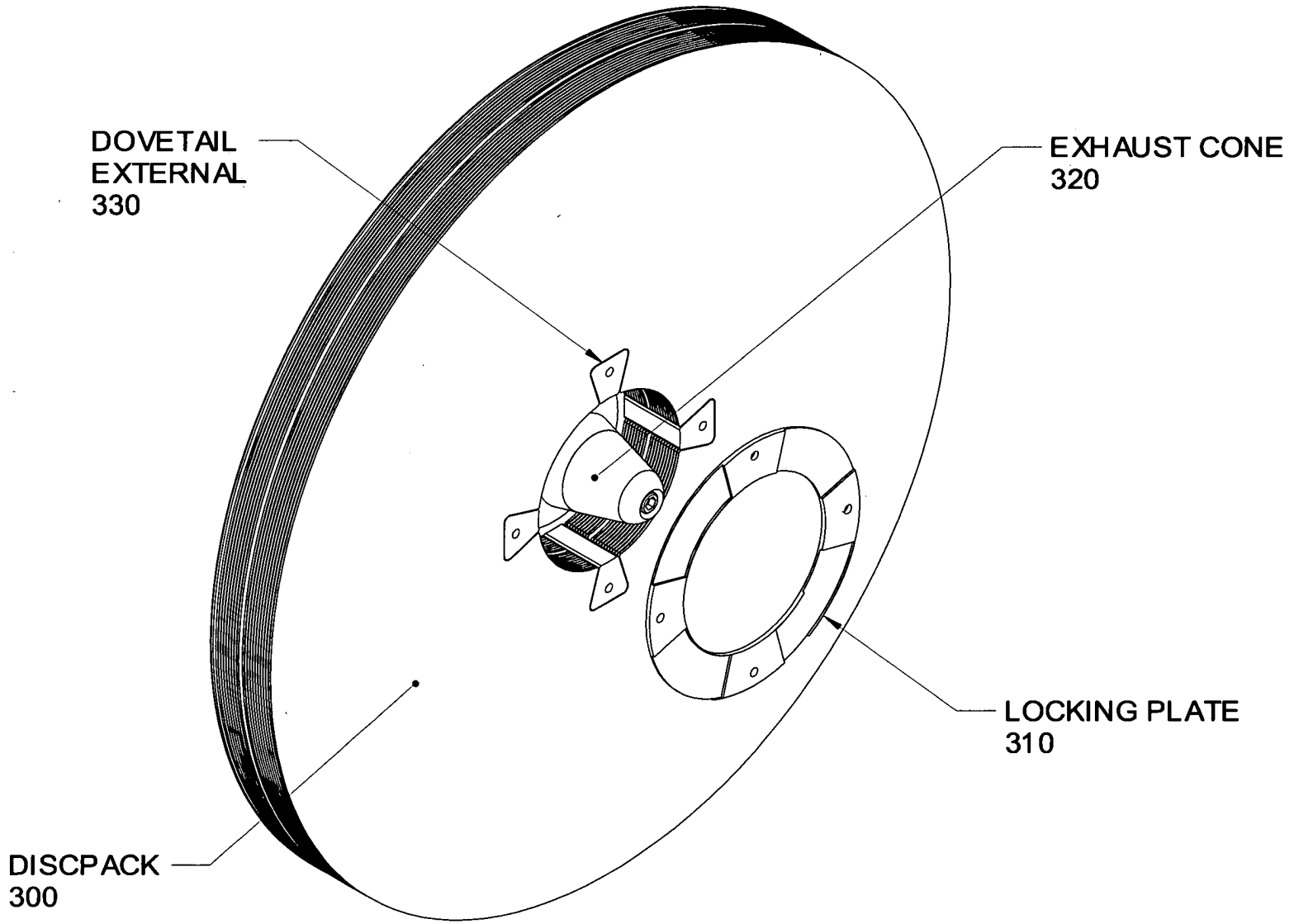
DOVETAIL
EXTERNAL
330
EXHAUST CONE
320
LOCKING PLATE
310
DISCPACK
300

FIGURE 3

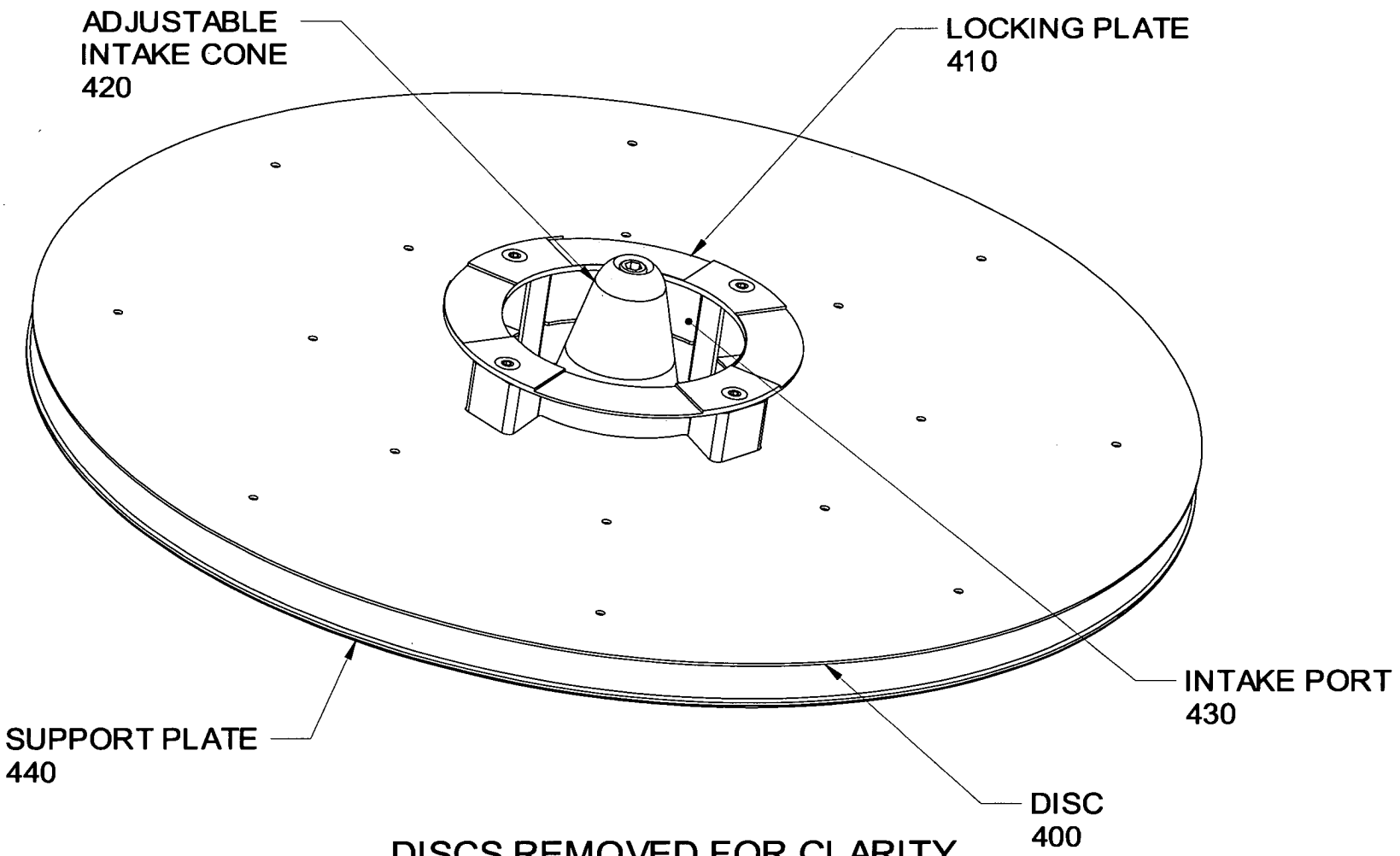
ADJUSTABLE
INTAKE CONE
420
LOCKING PLATE
410
INTAKE PORT
430
SUPPORT PLATE
440
DISC
400
DISCS REMOVED FOR CLARITY

FIGURE 4

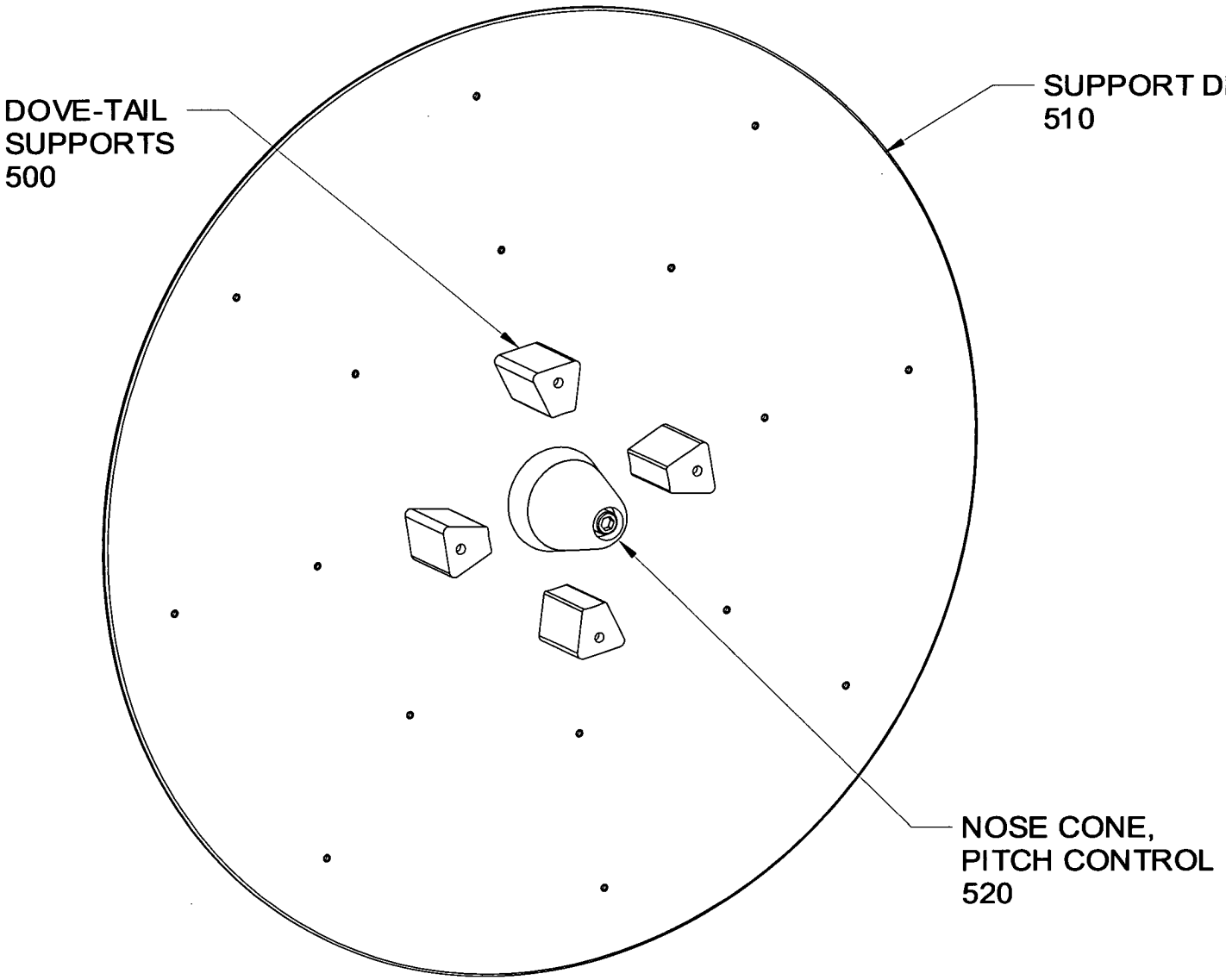
DOVE-TAIL
SUPPORTS
500
SUPPORT DISK
510
NOSE CONE,
PITCH CONTROL
520

FIGURE 5

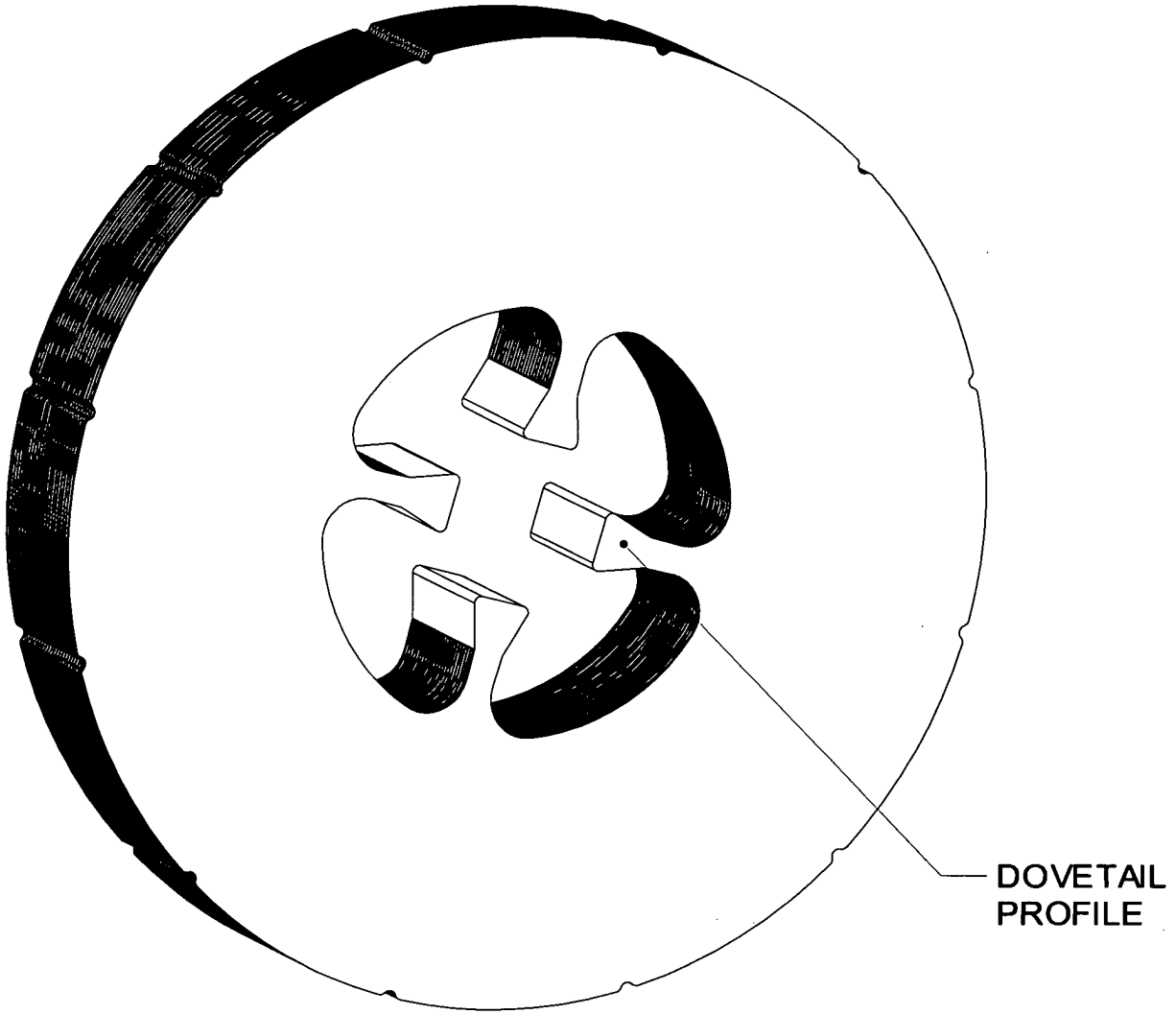

FIGURE 6

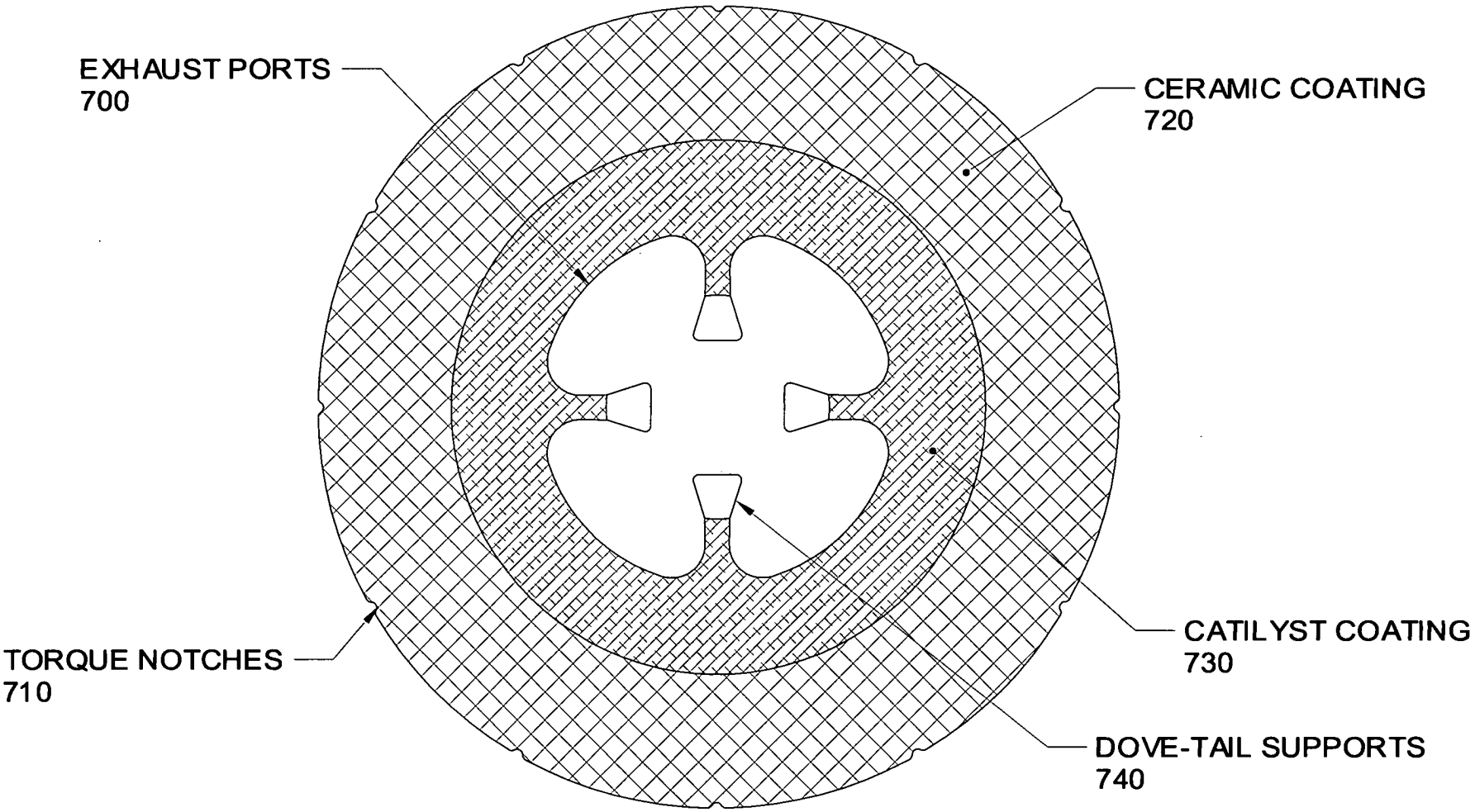
EXHAUST PORTS
700
CERAMIC COATING
720
TORQUE NOTCHES
710
CATILYST COATING
730
DOVE-TAIL SUPPORTS
740

FIGURE 7

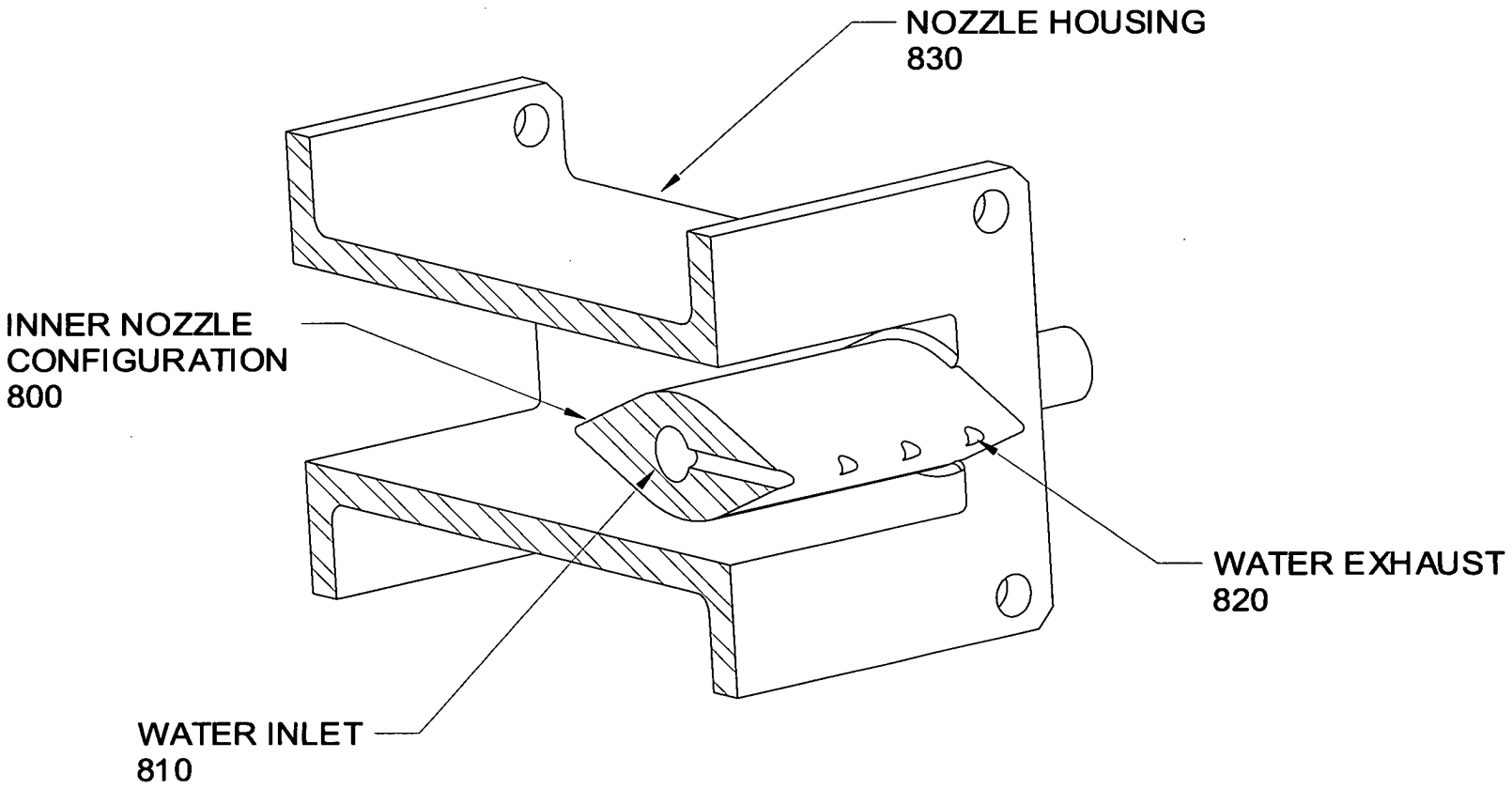
NOZZLE HOUSING
830
INNER NOZZLE
CONFIGURATION
800
WATER EXHAUST
820
WATER INLET
810

FIGURE 8

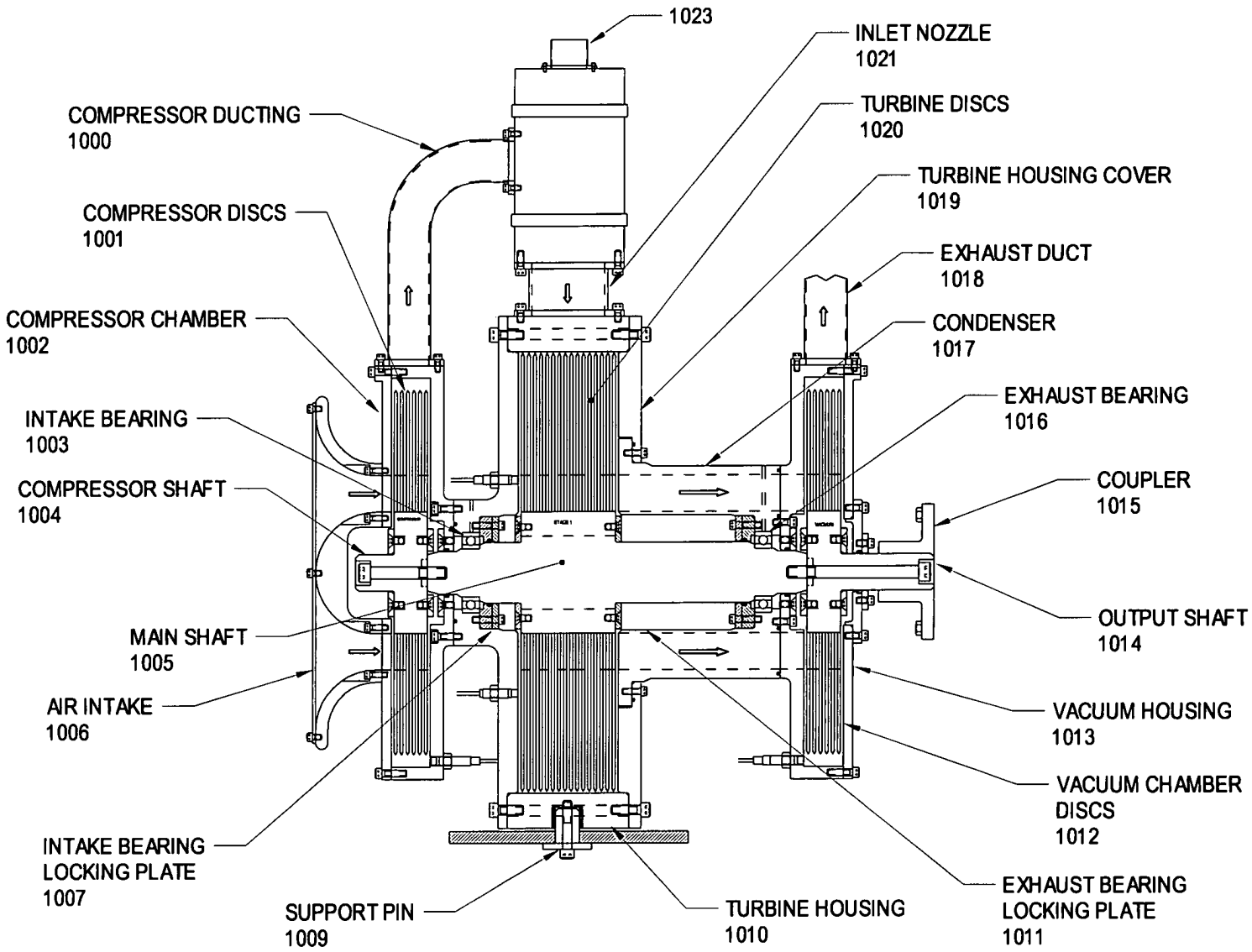
1023
INLET NOZZLE
1021
TURBINE DISCS
1020
TURBINE HOUSING COVER
1019
EXHAUST DUCT
1018
CONDENSER
1017
EXHAUST BEARING
1016
COUPLER
1015
OUTPUT SHAFT
1014
VACUUM HOUSING
1013
VACUUM CHAMBER
DISCS
1012
EXHAUST BEARING
LOCKING PLATE
1011
TURBINE HOUSING
1010
SUPPORT PIN
1009
INTAKE BEARING
LOCKING PLATE
1007
AIR INTAKE
1006
MAIN SHAFT
1005
COMPRESSOR SHAFT
1004
INTAKE BEARING
1003
COMPRESSOR CHAMBER
1002
COMPRESSOR DISCS
1001
COMPRESSOR DUCTING
1000

FIGURE 10

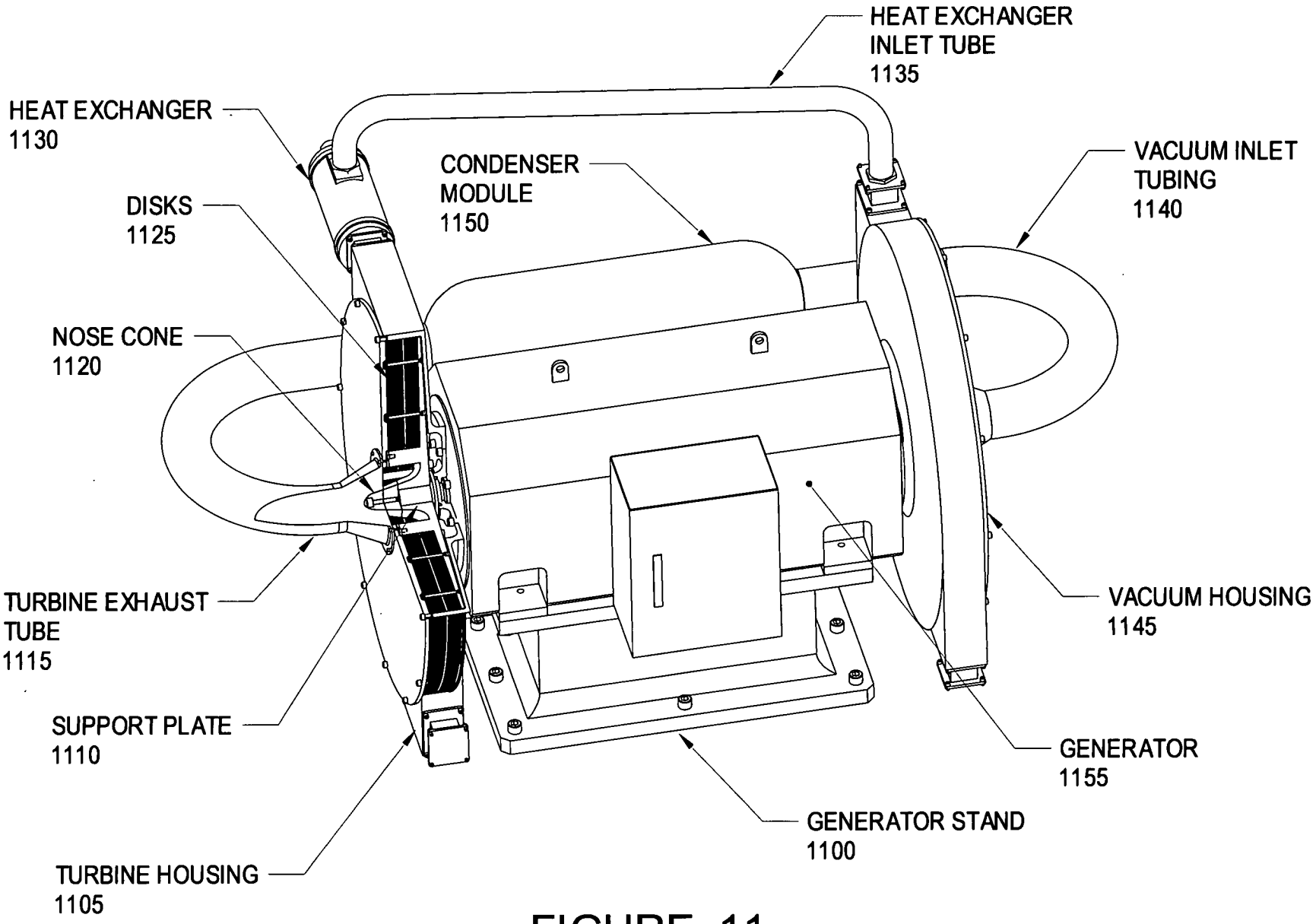
HEAT EXCHANGER INLET TUBE 1135
HEAT EXCHANGER 1130
CONDENSER MODULE 1150
VACUUM INLET TUBING 1140
DISKS 1125
NOSE CONE 1120
TURBINE EXHAUST TUBE 1115
VACUUM HOUSING 1145
SUPPORT PLATE 1110
GENERATOR 1155
GENERATOR STAND 1100
TURBINE HOUSING 1105

FIGURE 11

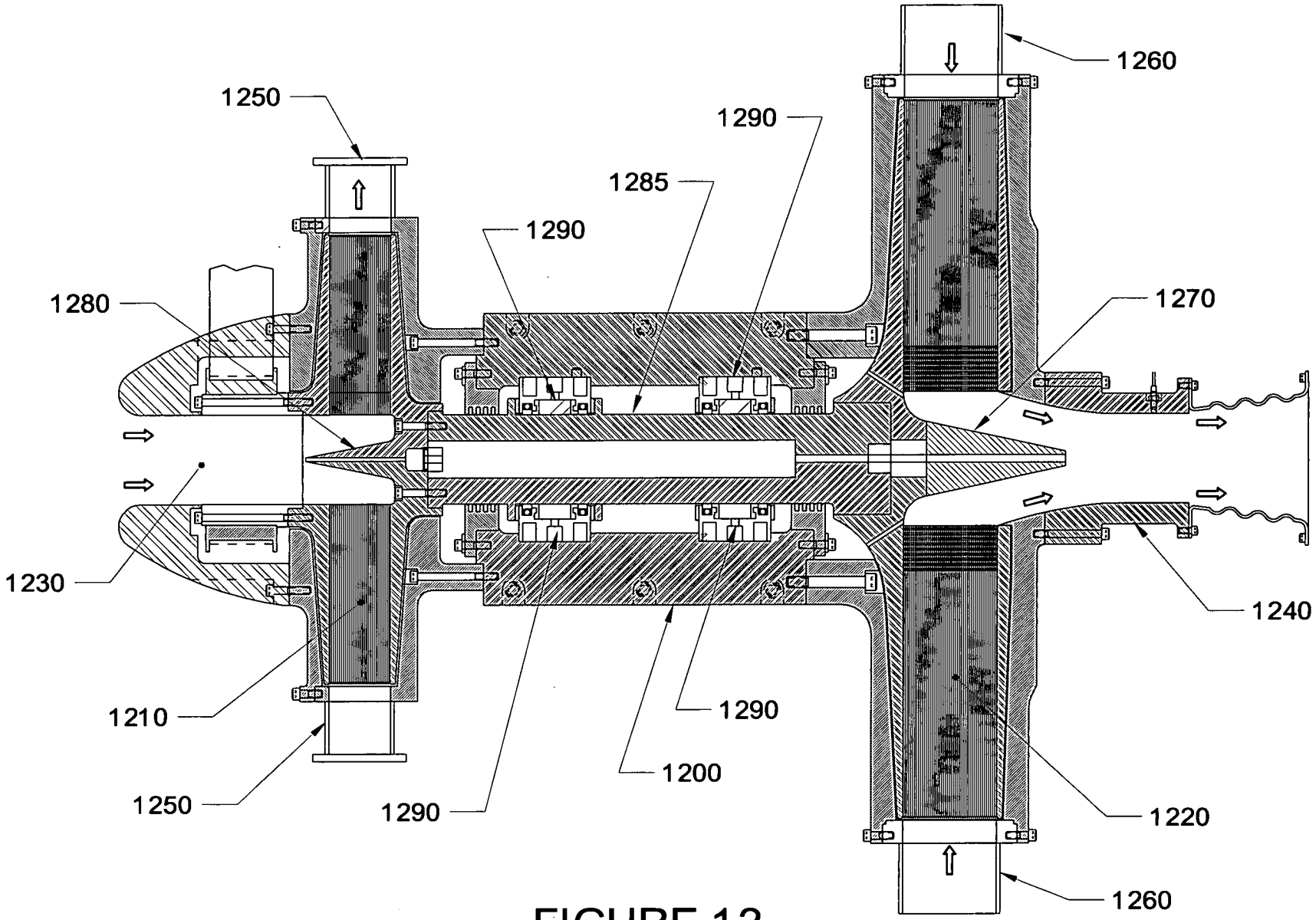
1260
1250
1290
1285
1290
1280
1270
1230
1240
1210
1290
1250
1200
1290
1220
1260

FIGURE 12

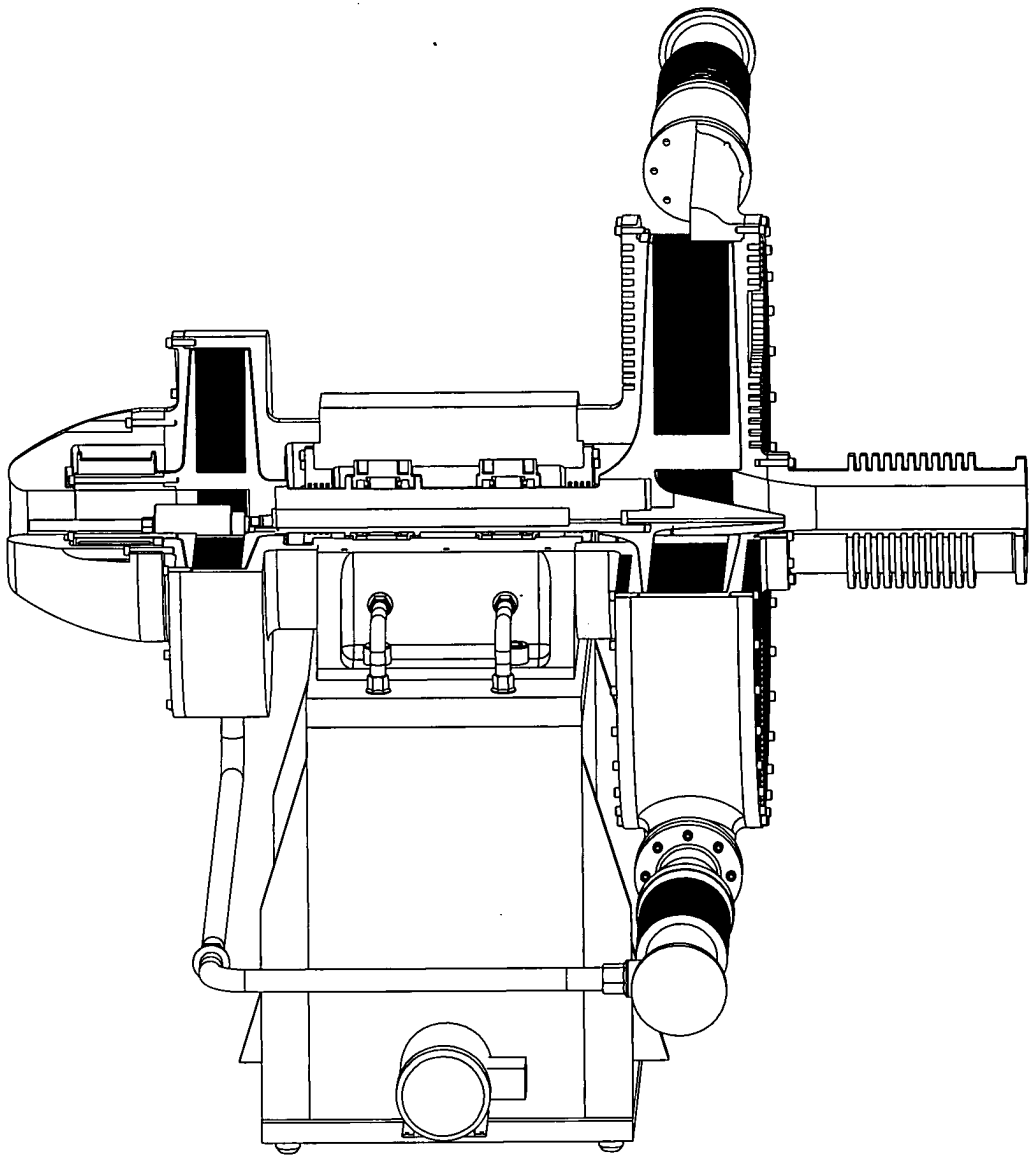

FIGURE 13

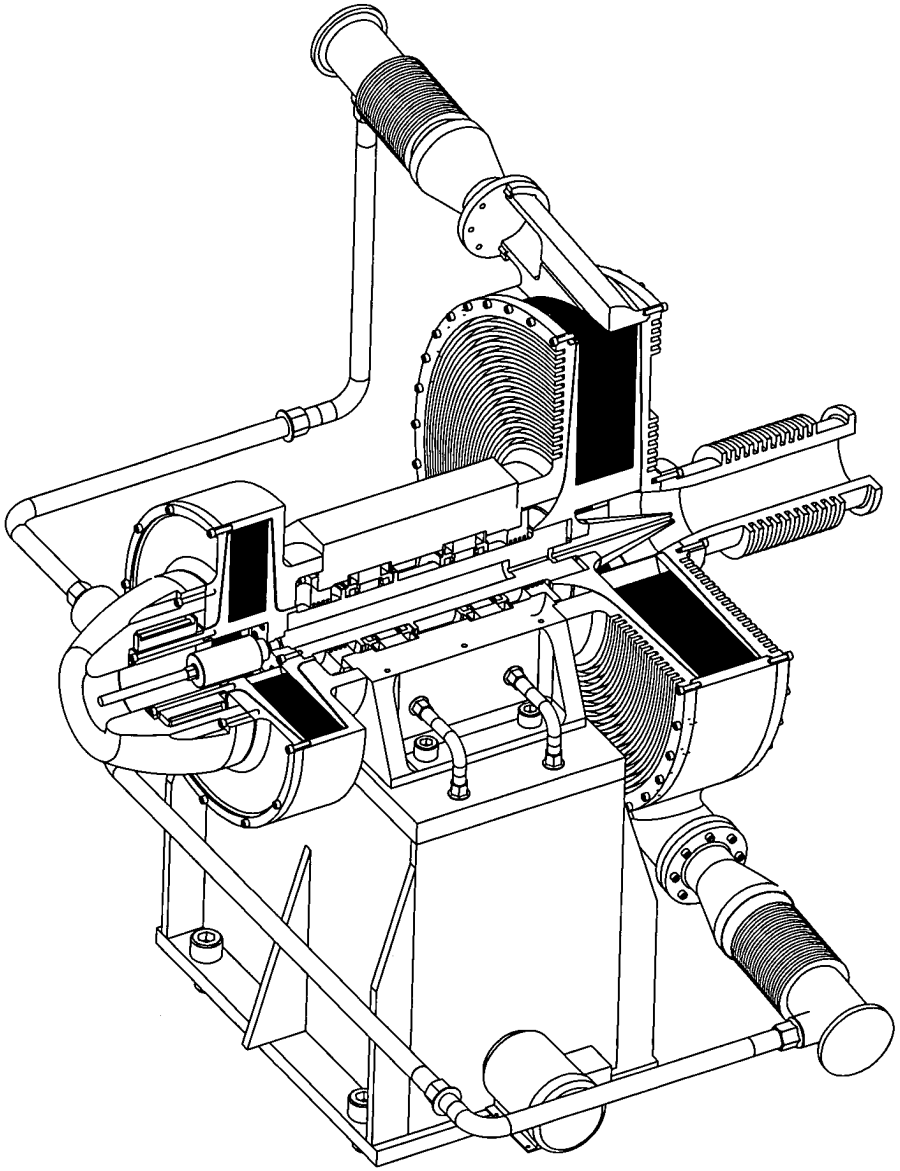

FIGURE 14

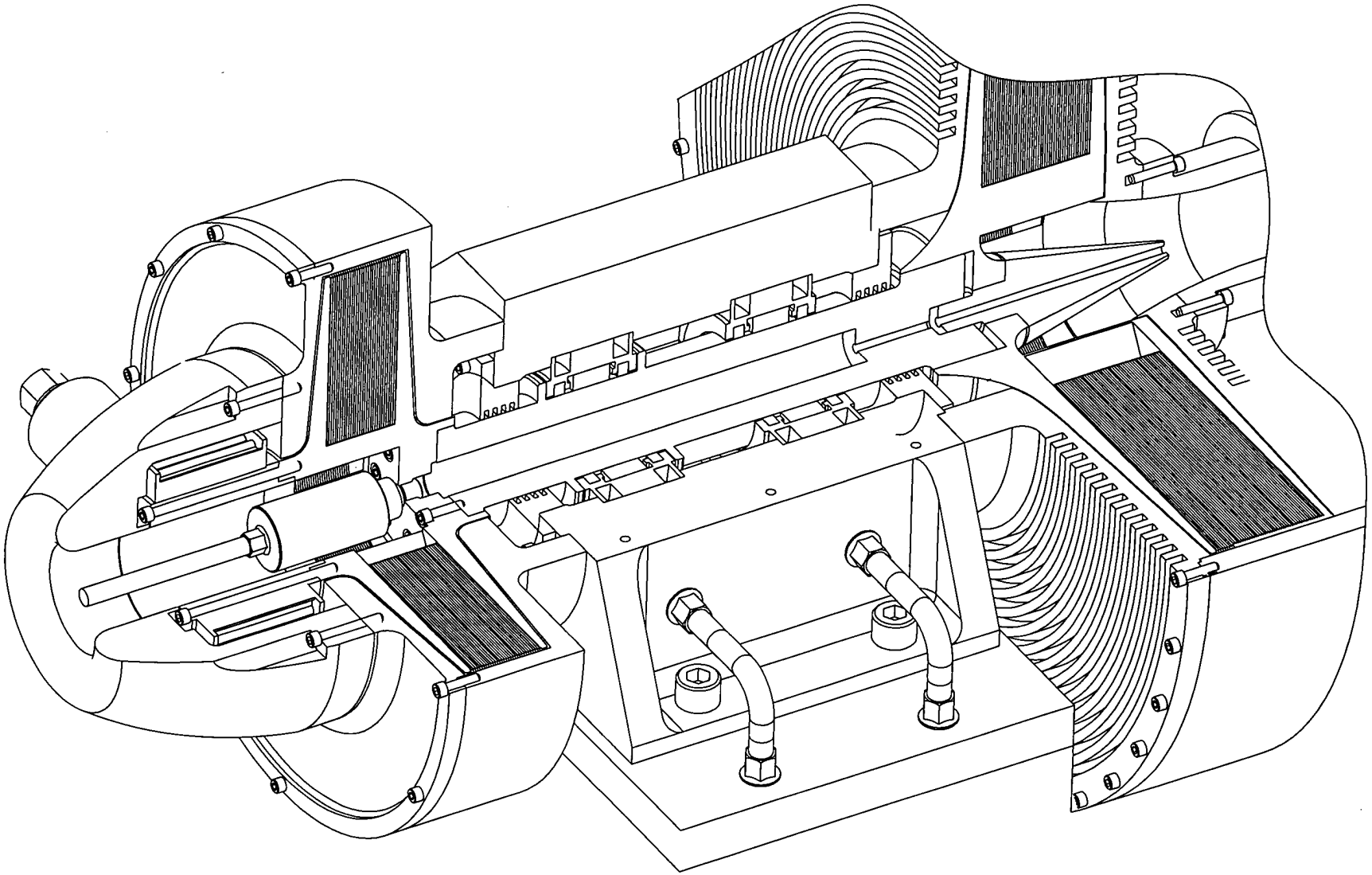

FIGURE 15

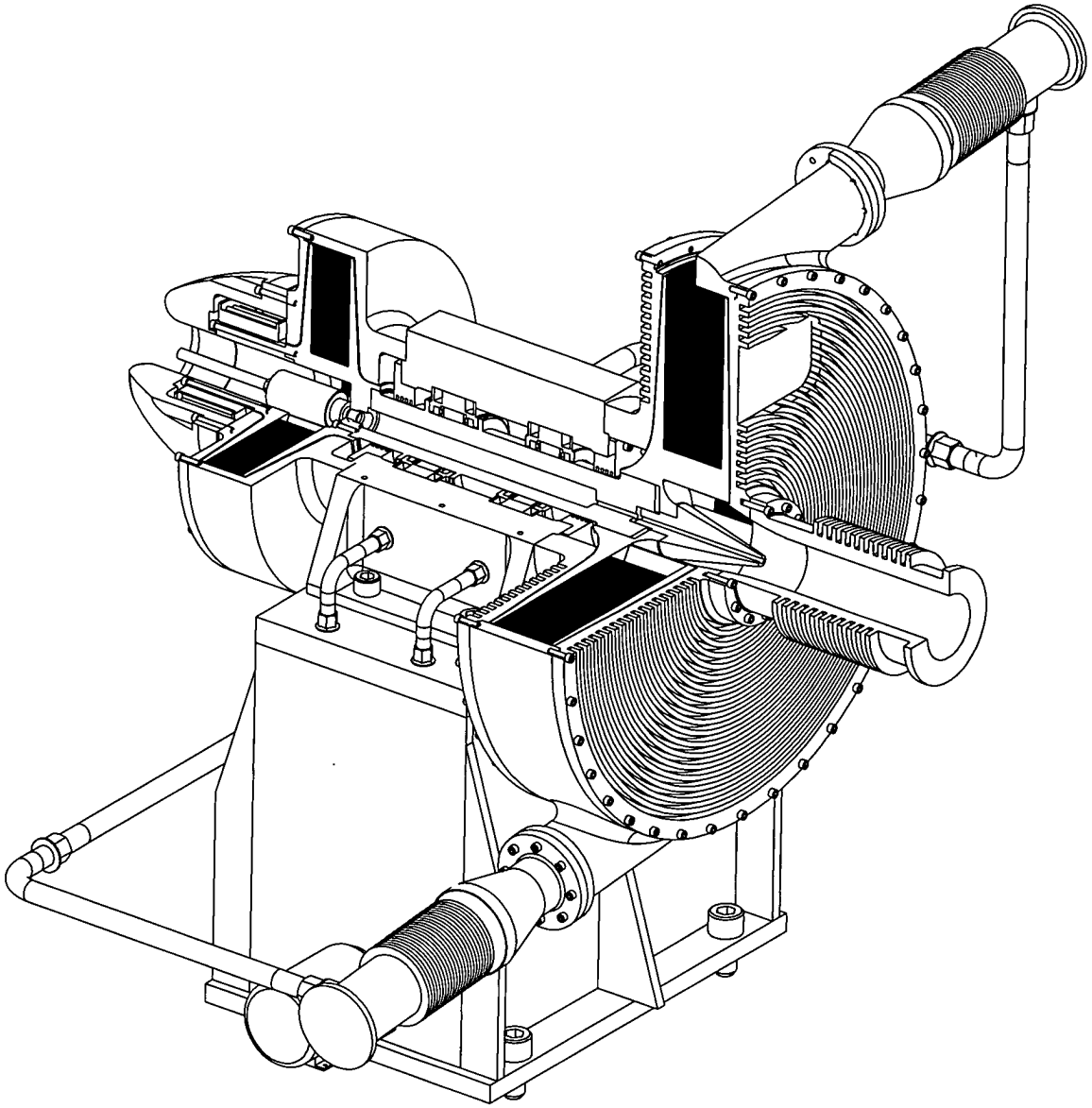

FIGURE 16

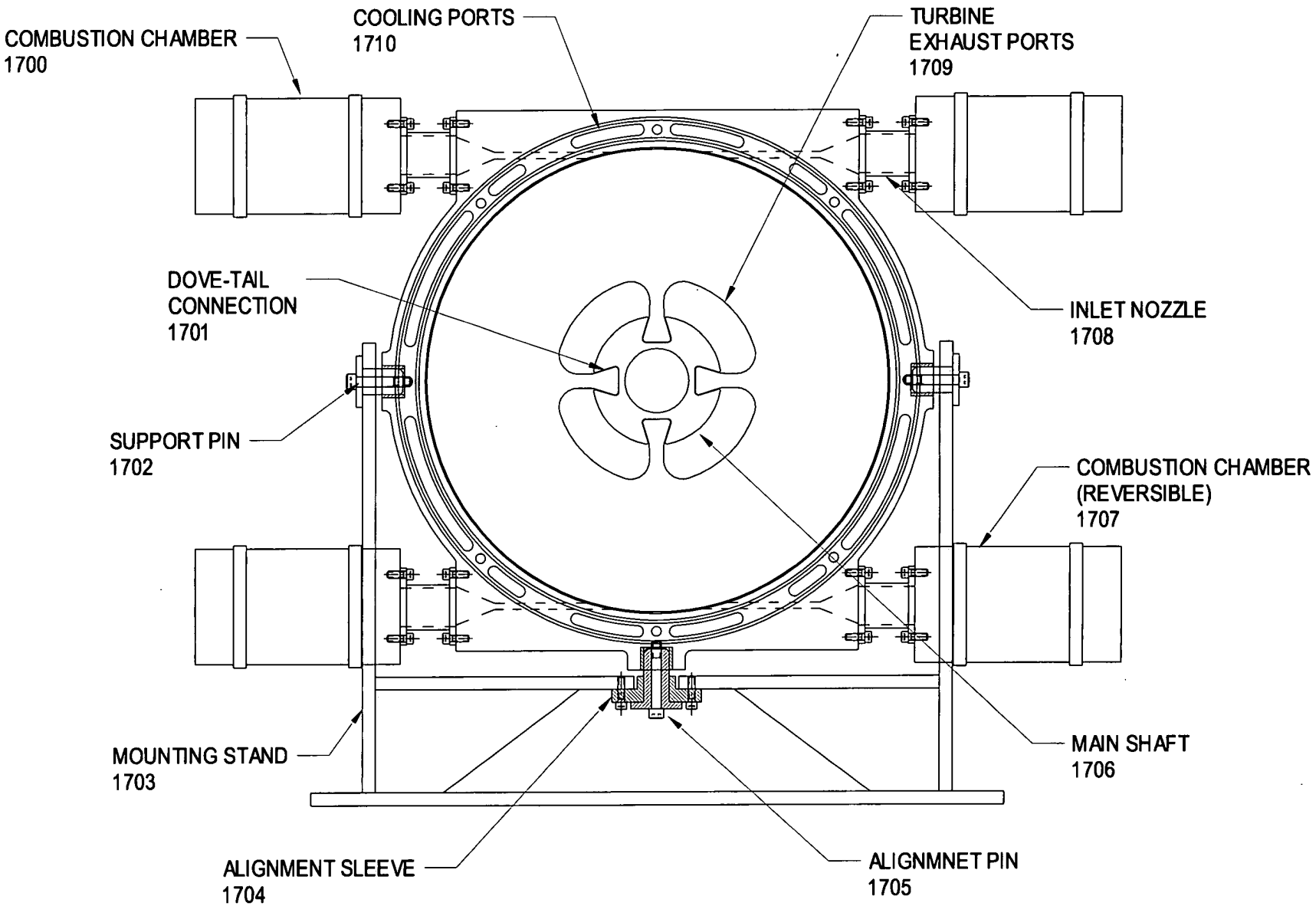
COMBUSTION CHAMBER
1700
COOLING PORTS
1710
TURBINE
EXHAUST PORTS
1709
DOVE-TAIL
CONNECTION
1701
INLET NOZZLE
1708
SUPPORT PIN
1702
COMBUSTION CHAMBER
(REVERSIBLE)
1707
MOUNTING STAND
1703
MAIN SHAFT
1706
ALIGNMENT SLEEVE
1704
ALIGNMNET PIN
1705

FIGURE 17

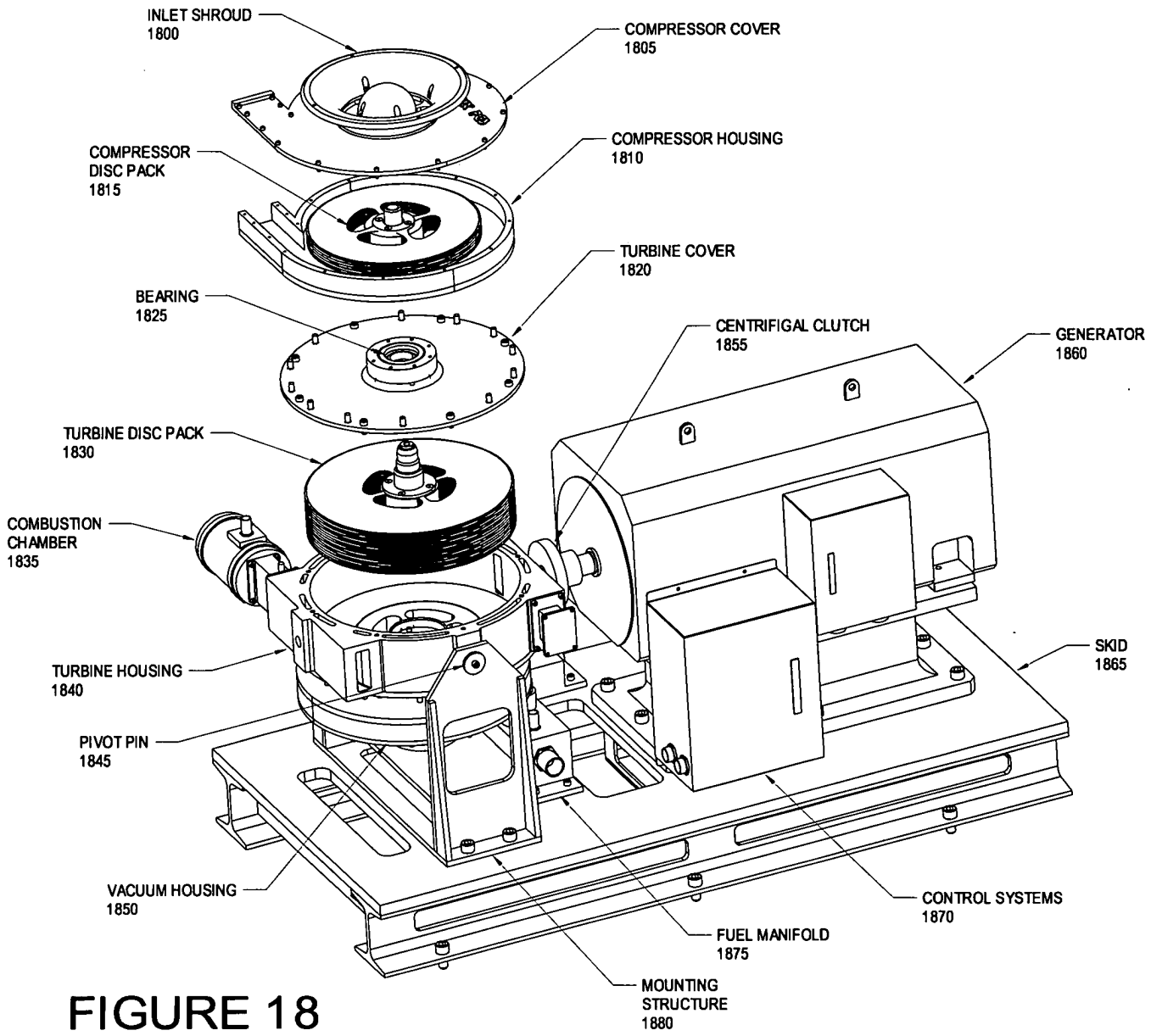
INLET SHROUD
1800
COMPRESSOR COVER
1805
COMPRESSOR HOUSING
1810
COMPRESSOR
DISC PACK
1815
TURBINE COVER
1820
BEARING
1825
CENTRIFIGAL CLUTCH
1855
GENERATOR
1860
TURBINE DISC PACK
1830
COMBUSTION
CHAMBER
1835
SKID
1865
TURBINE HOUSING
1840
PIVOT PIN
1845
VACUUM HOUSING
1850
CONTROL SYSTEMS
1870
FUEL MANIFOLD
1875
MOUNTING
STRUCTURE
1880

FIGURE 18

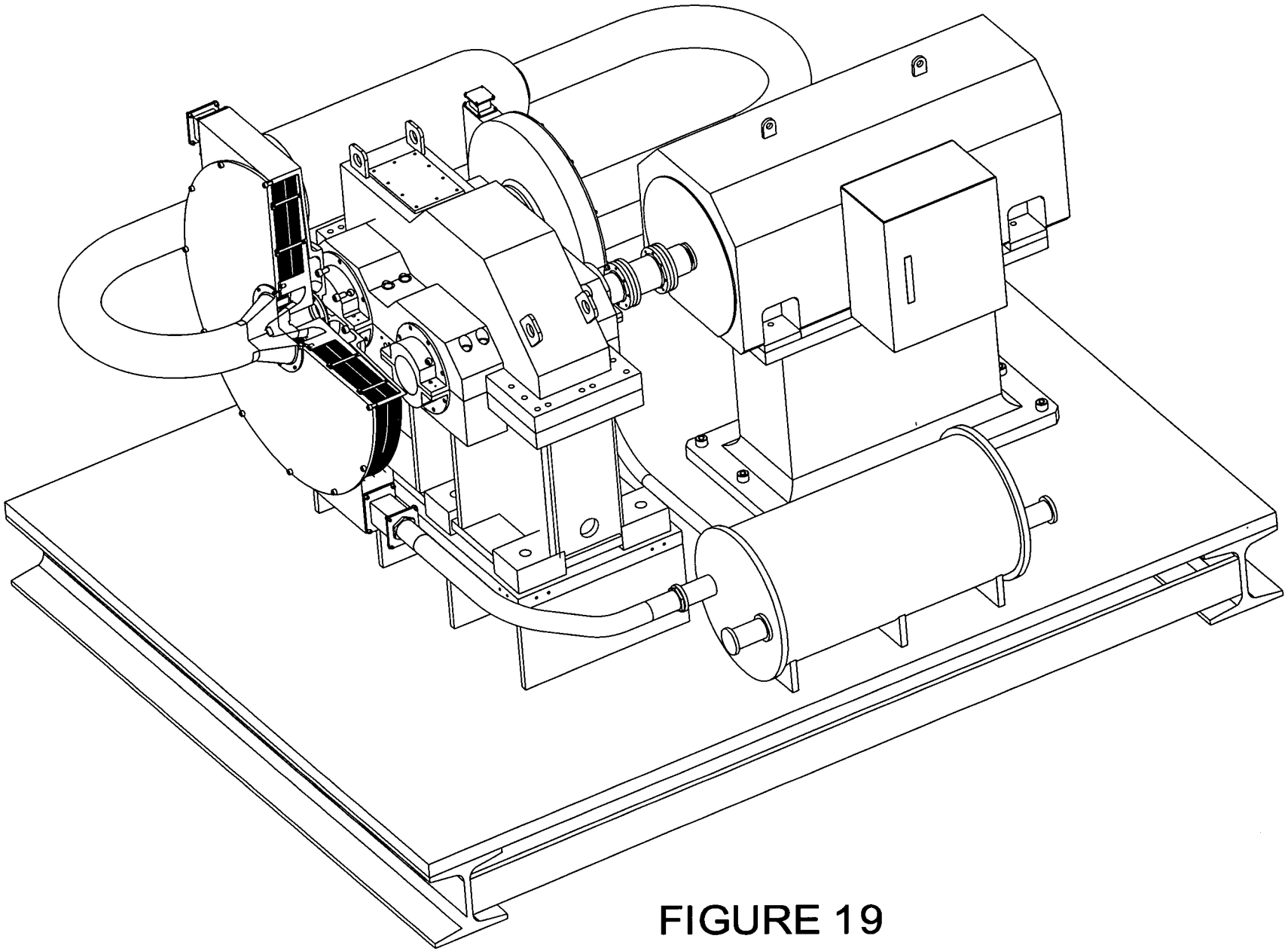

FIGURE 19

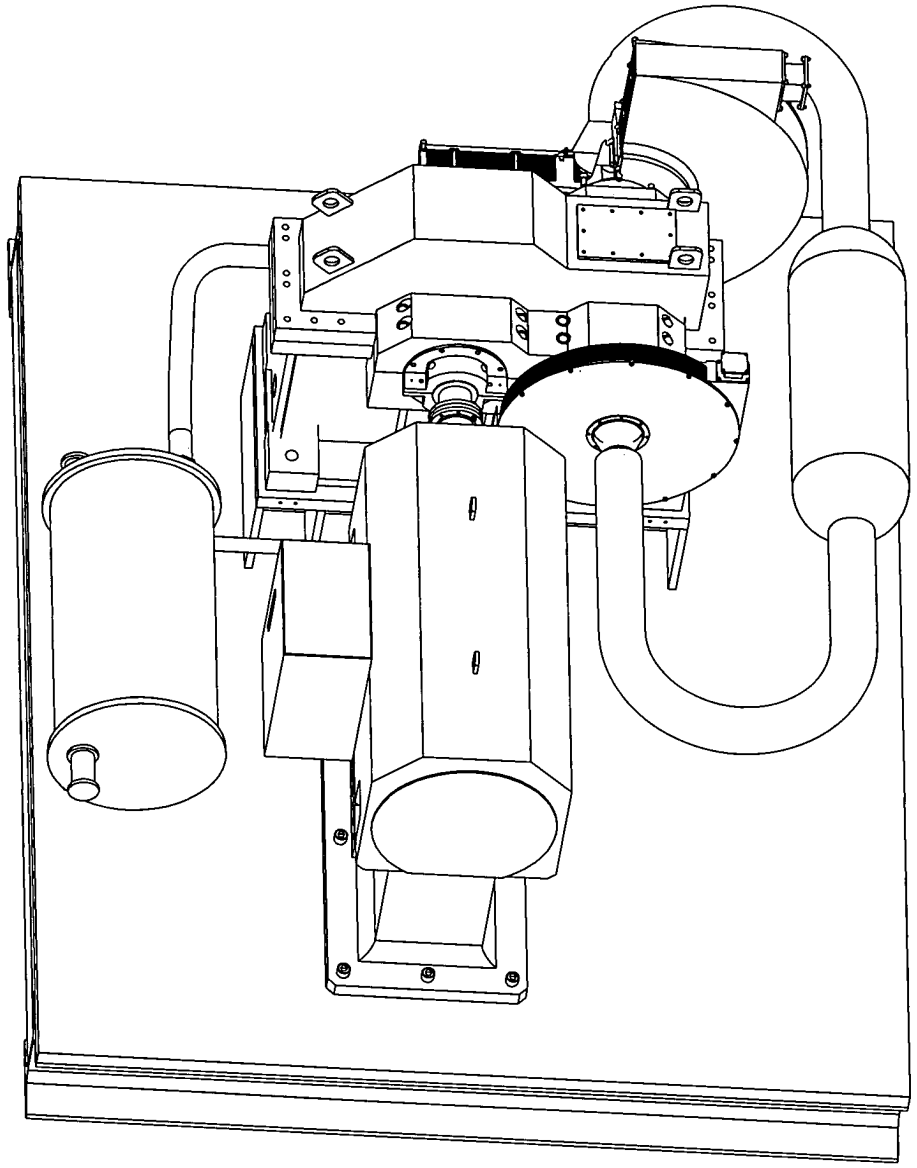

FIGURE 20

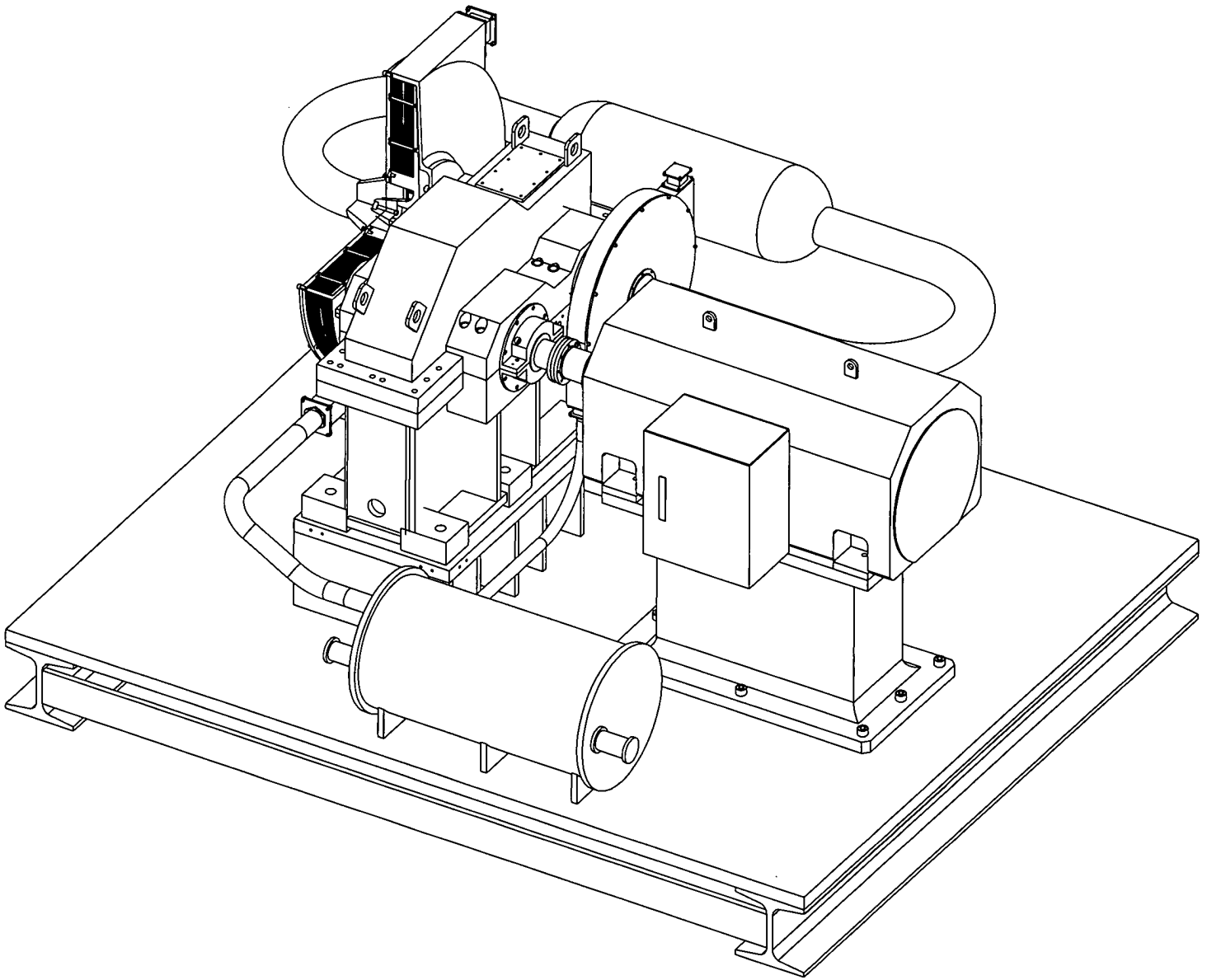

FIGURE 21

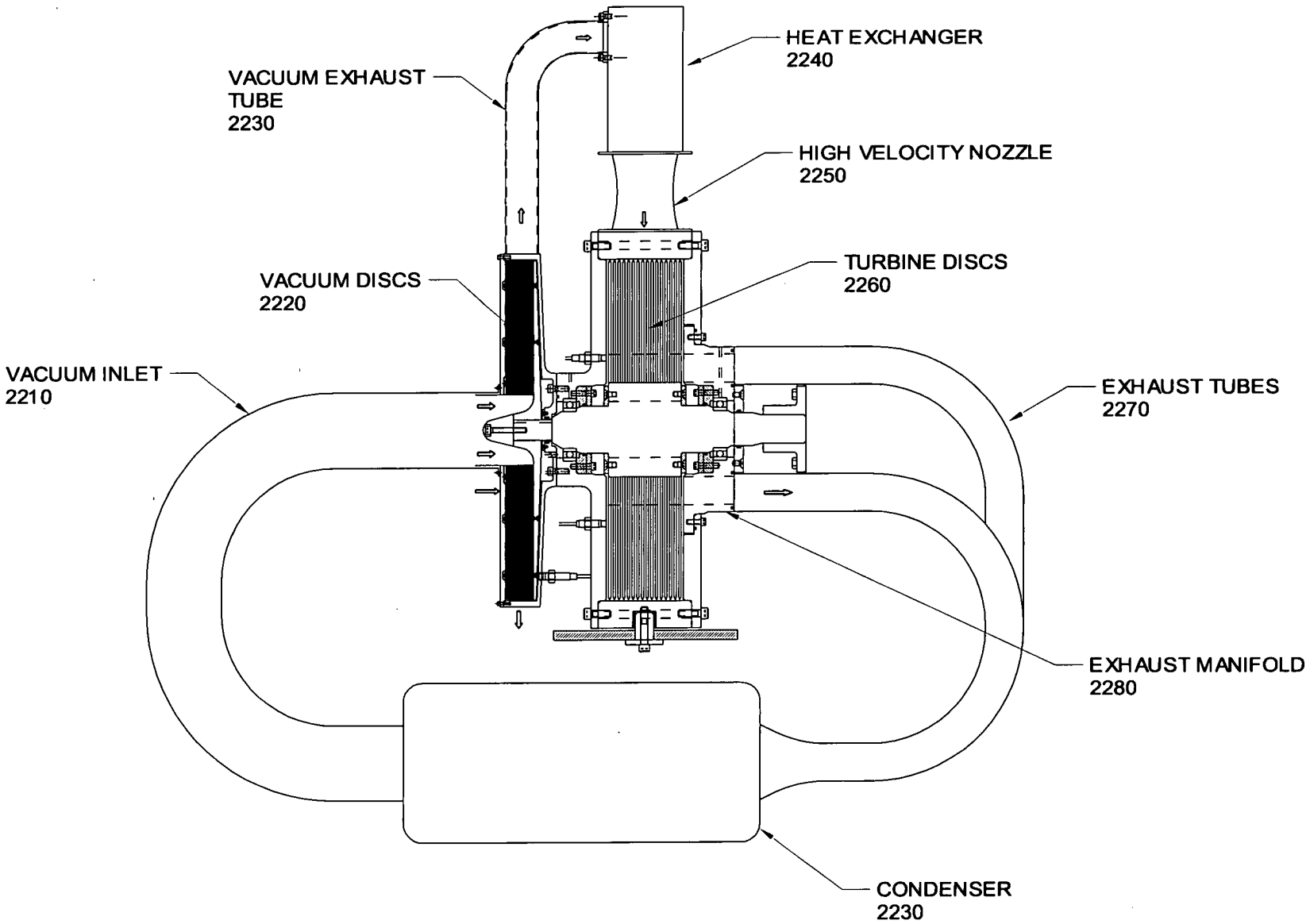
HEAT EXCHANGER
2240
VACUUM EXHAUST
TUBE
2230
HIGH VELOCITY NOZZLE
2250
TURBINE DISCS
2260
VACUUM DISCS
2220
VACUUM INLET
2210
EXHAUST TUBES
2270
EXHAUST MANIFOLD
2280
CONDENSER
2230

FIGURE 22

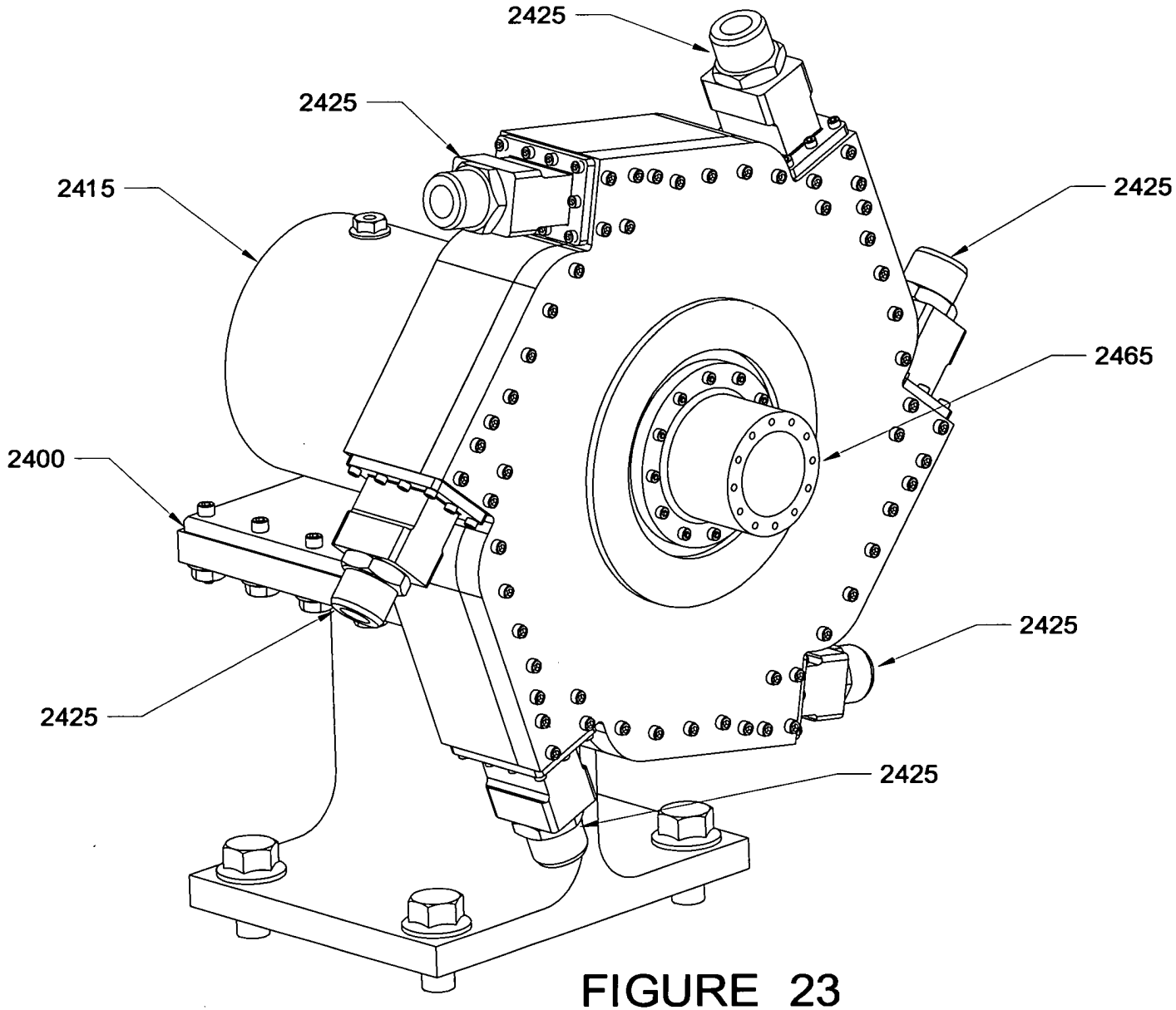

FIGURE 23

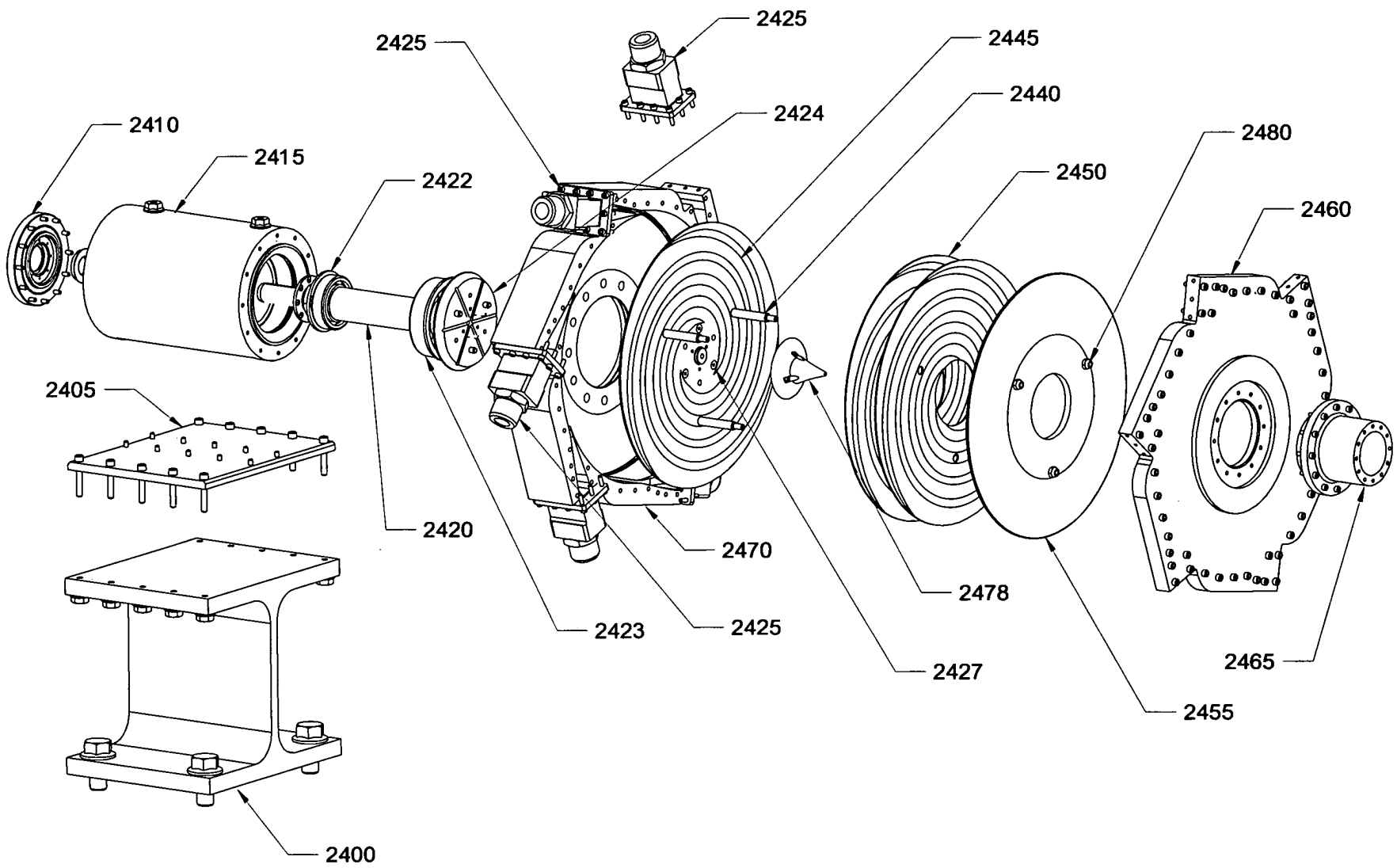
2425
2425
2445
2424
2440
2410
2415
2422
2480
2450
2460
2405
2420
2470
2478
2423
2425
2427
2465
2455
2400

FIGURE 24

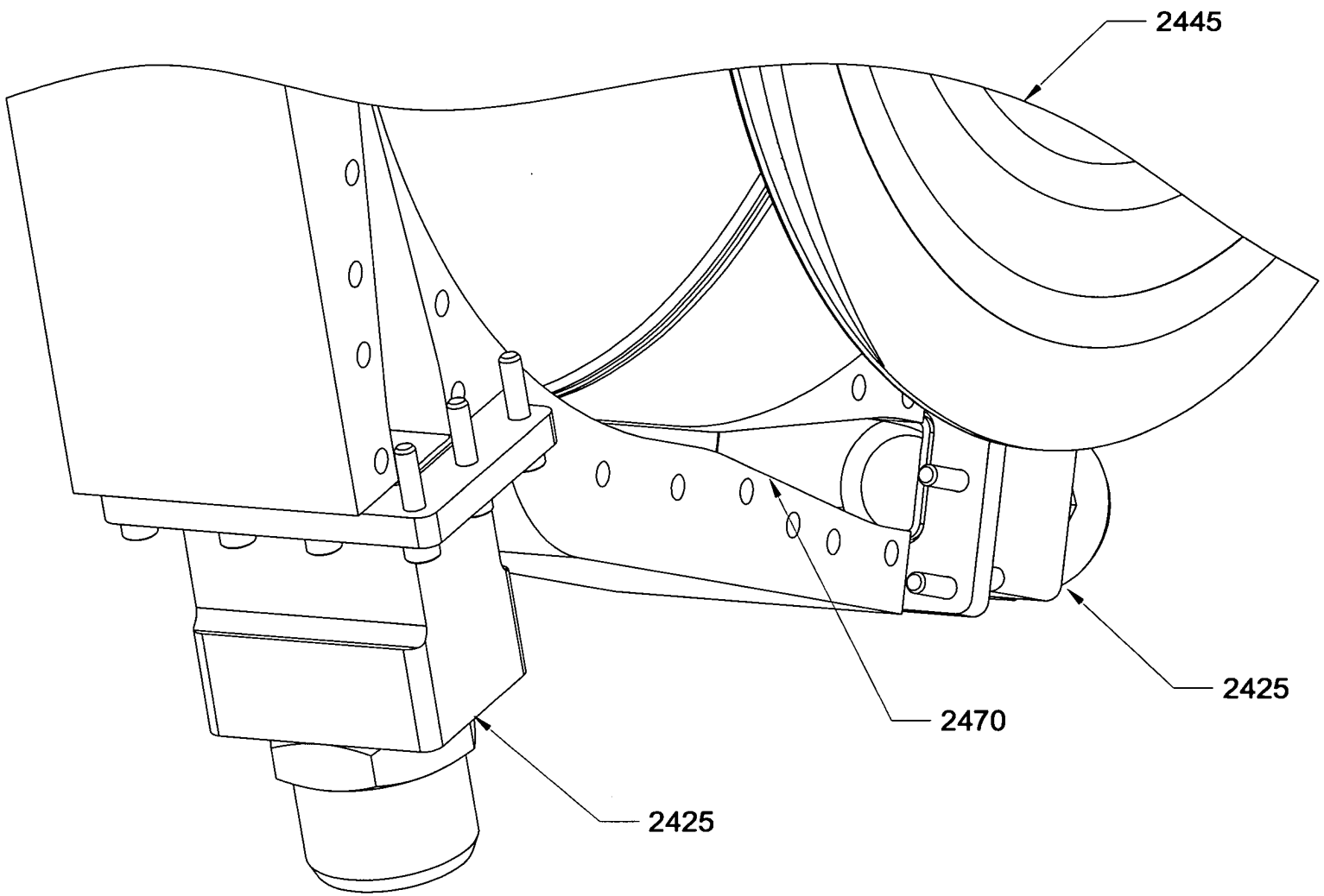

FIGURE 25

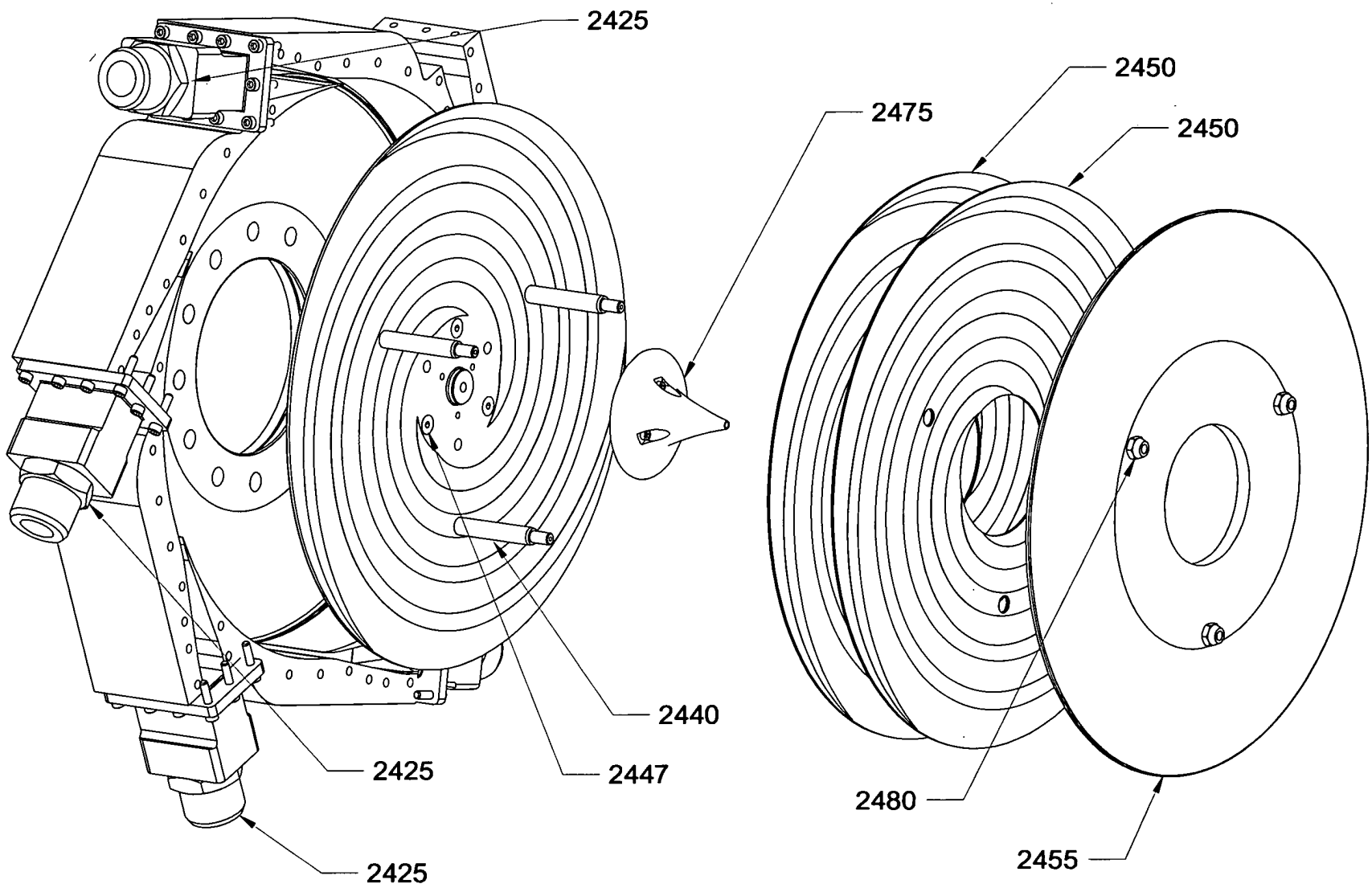

FIGURE 26

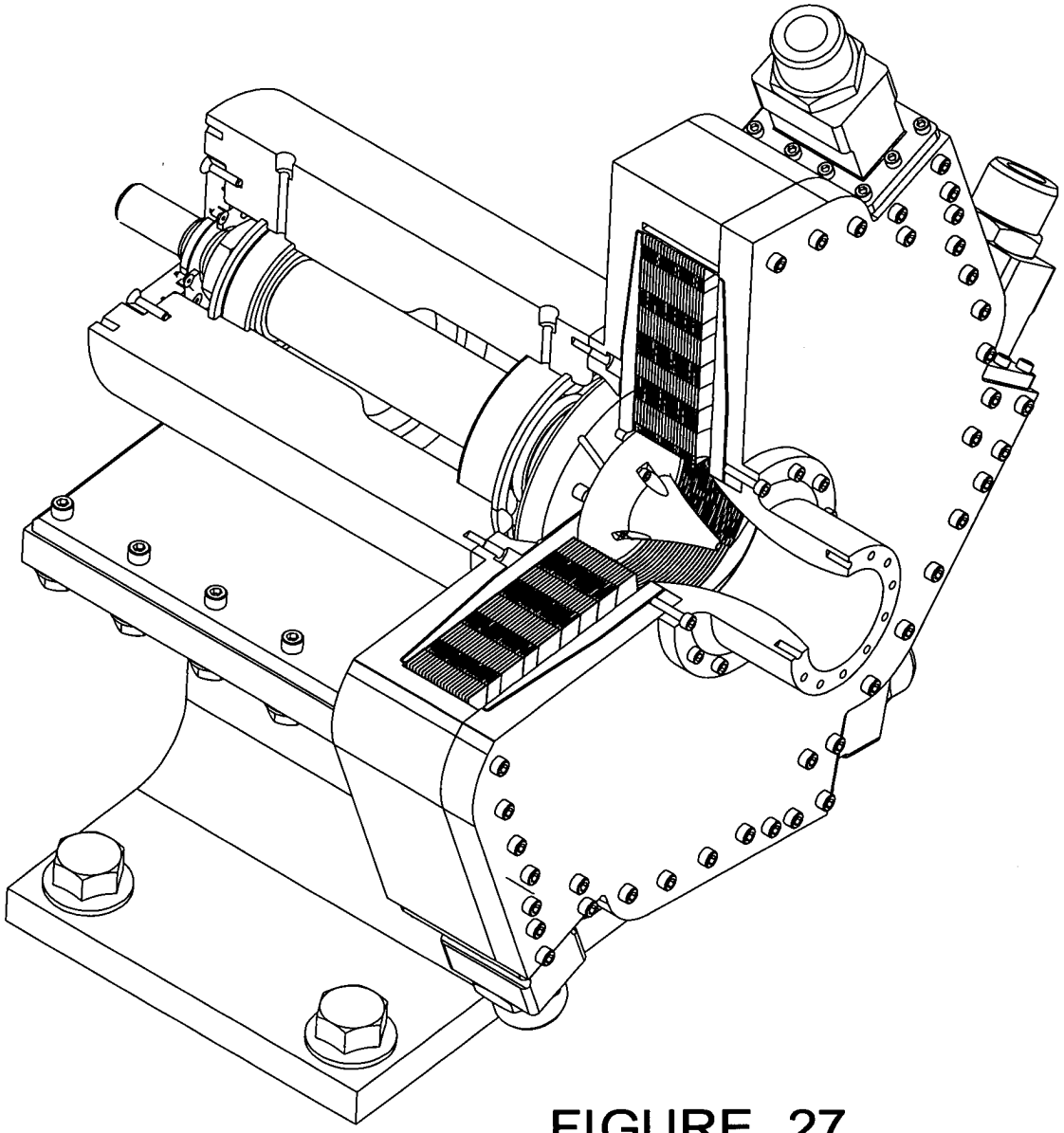

FIGURE 27

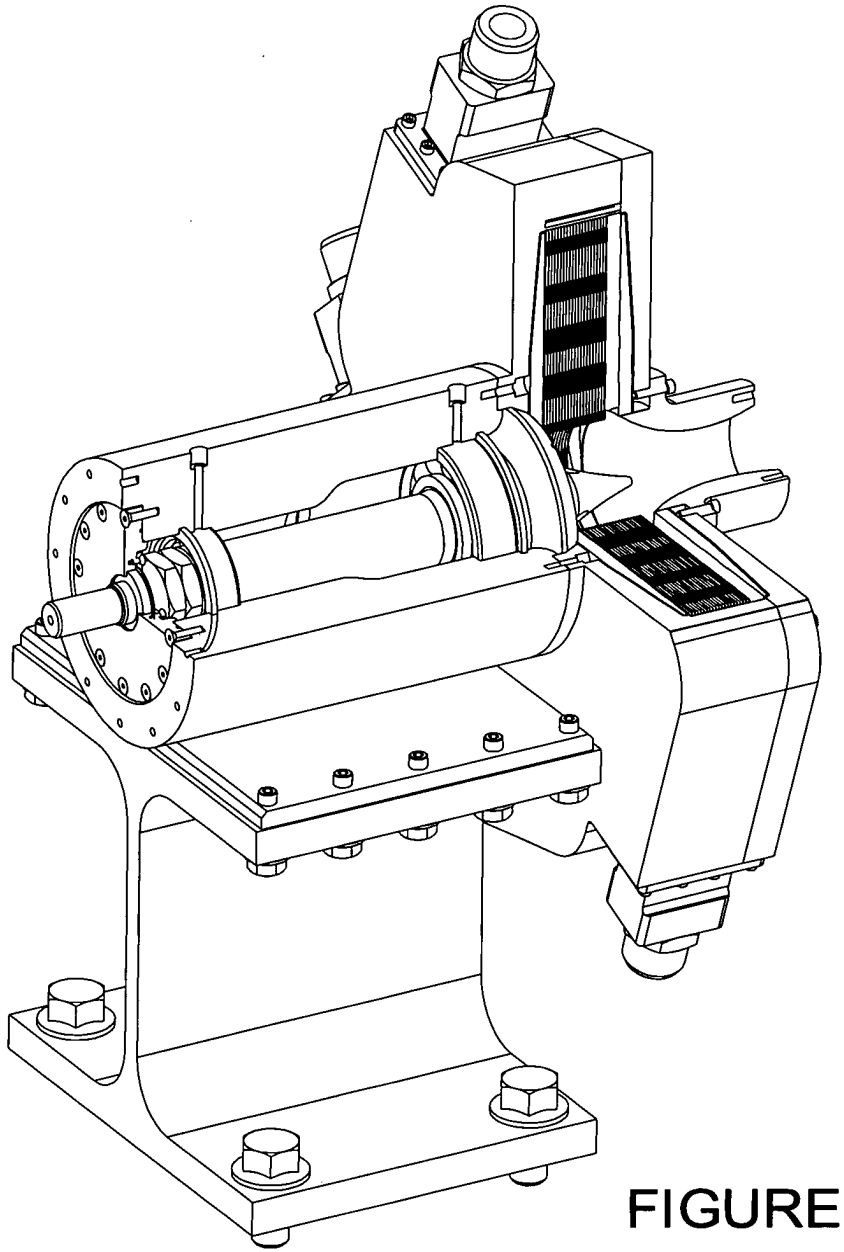

FIGURE 28

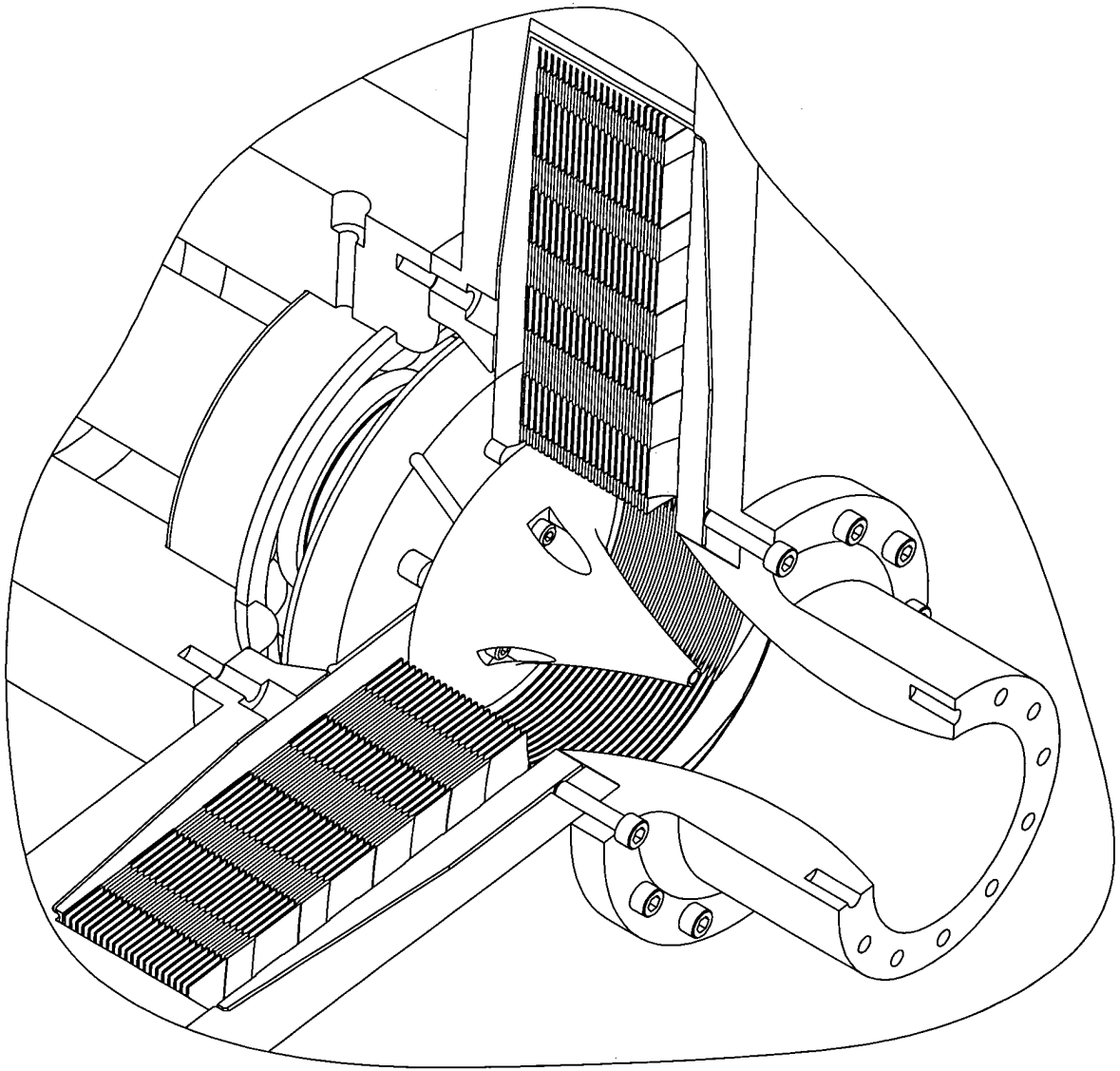

FIGURE 29

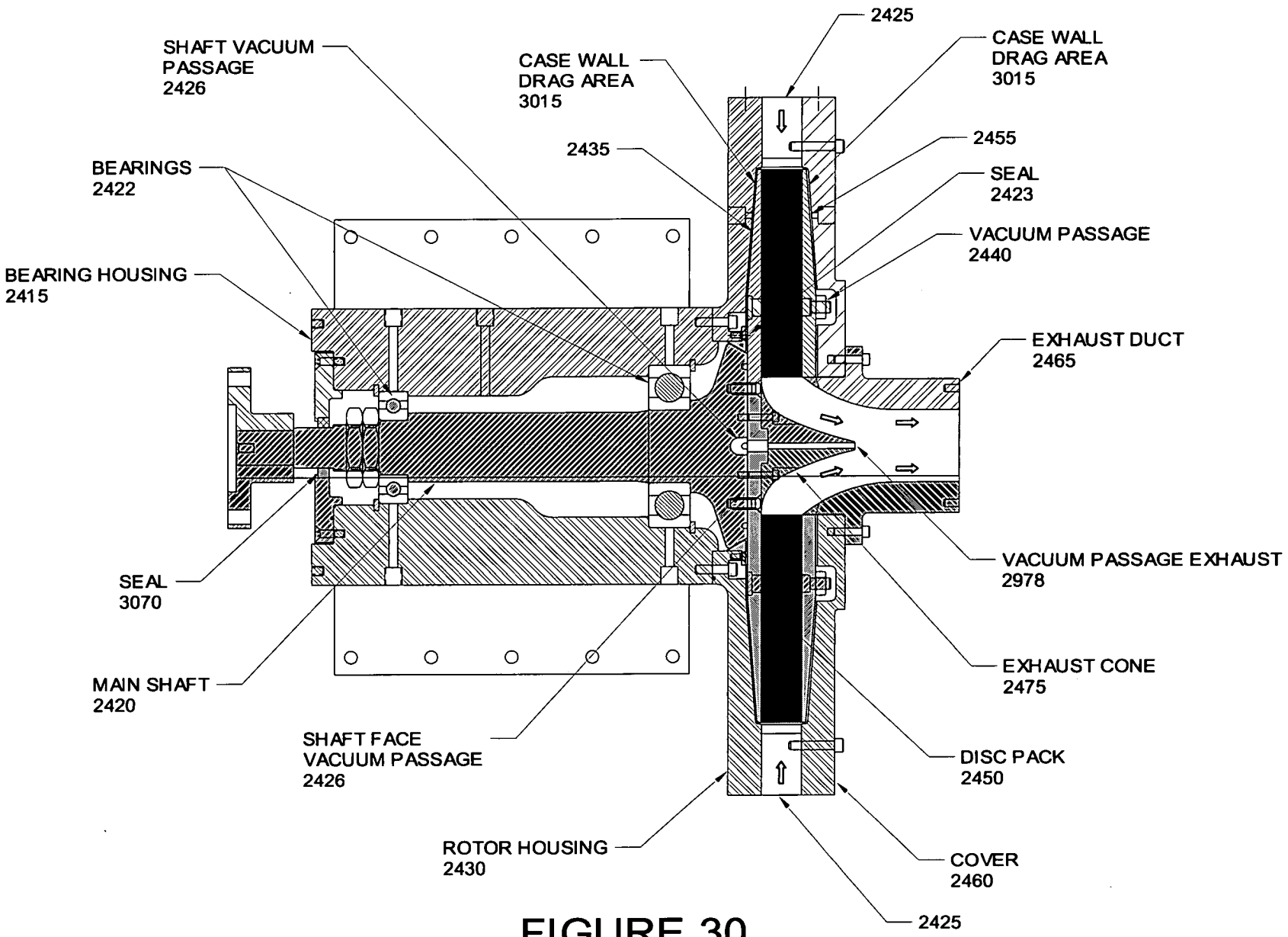
2425
SHAFT VACUUM PASSAGE 2426
CASE WALL DRAG AREA 3015
CASE WALL DRAG AREA 3015
2435
2455
BEARINGS 2422
SEAL 2423
VACUUM PASSAGE 2440
BEARING HOUSING 2415
EXHAUST DUCT 2465
VACUUM PASSAGE EXHAUST 2978
SEAL 3070
EXHAUST CONE 2475
MAIN SHAFT 2420
SHAFT FACE VACUUM PASSAGE 2426
DISC PACK 2450
ROTOR HOUSING 2430
COVER 2460
2425

FIGURE 30

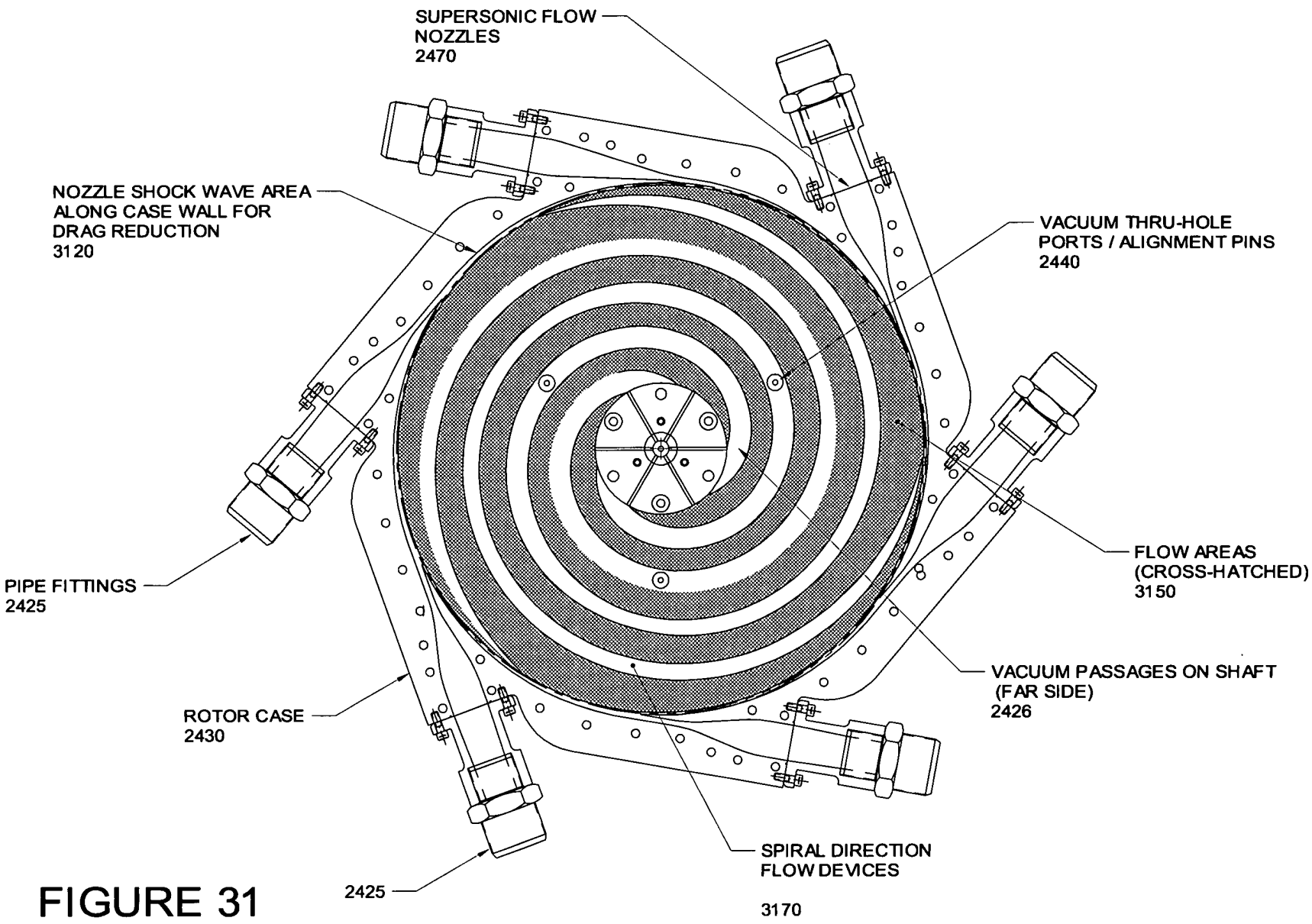
SUPERSONIC FLOW NOZZLES 2470
NOZZLE SHOCK WAVE AREA ALONG CASE WALL FOR DRAG REDUCTION 3120
VACUUM THRU-HOLE PORTS / ALIGNMENT PINS 2440
PIPE FITTINGS 2425
FLOW AREAS (CROSS-HATCHED) 3150
VACUUM PASSAGES ON SHAFT (FAR SIDE) 2426
ROTOR CASE 2430
SPIRAL DIRECTION FLOW DEVICES 3170
2425

FIGURE 31

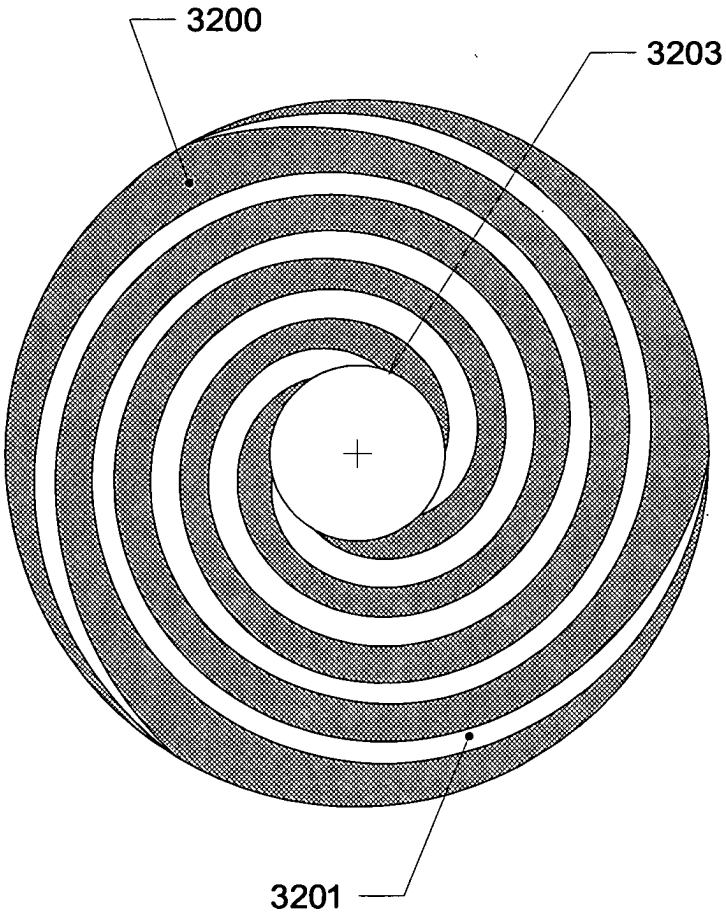

FIGURE 32A

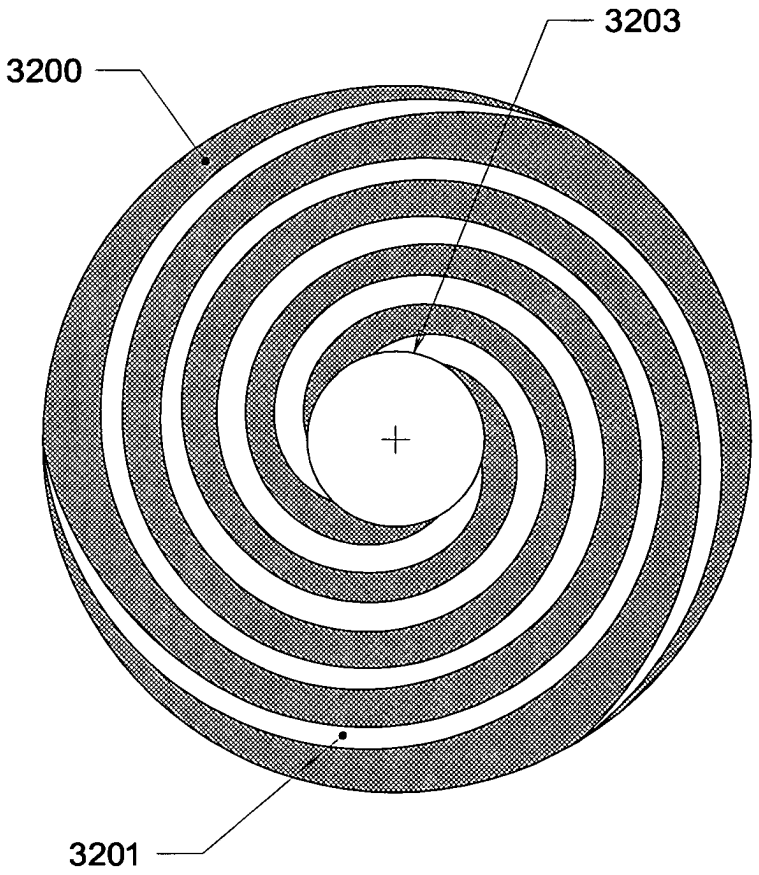

FIGURE 32B

FIGURE 32C

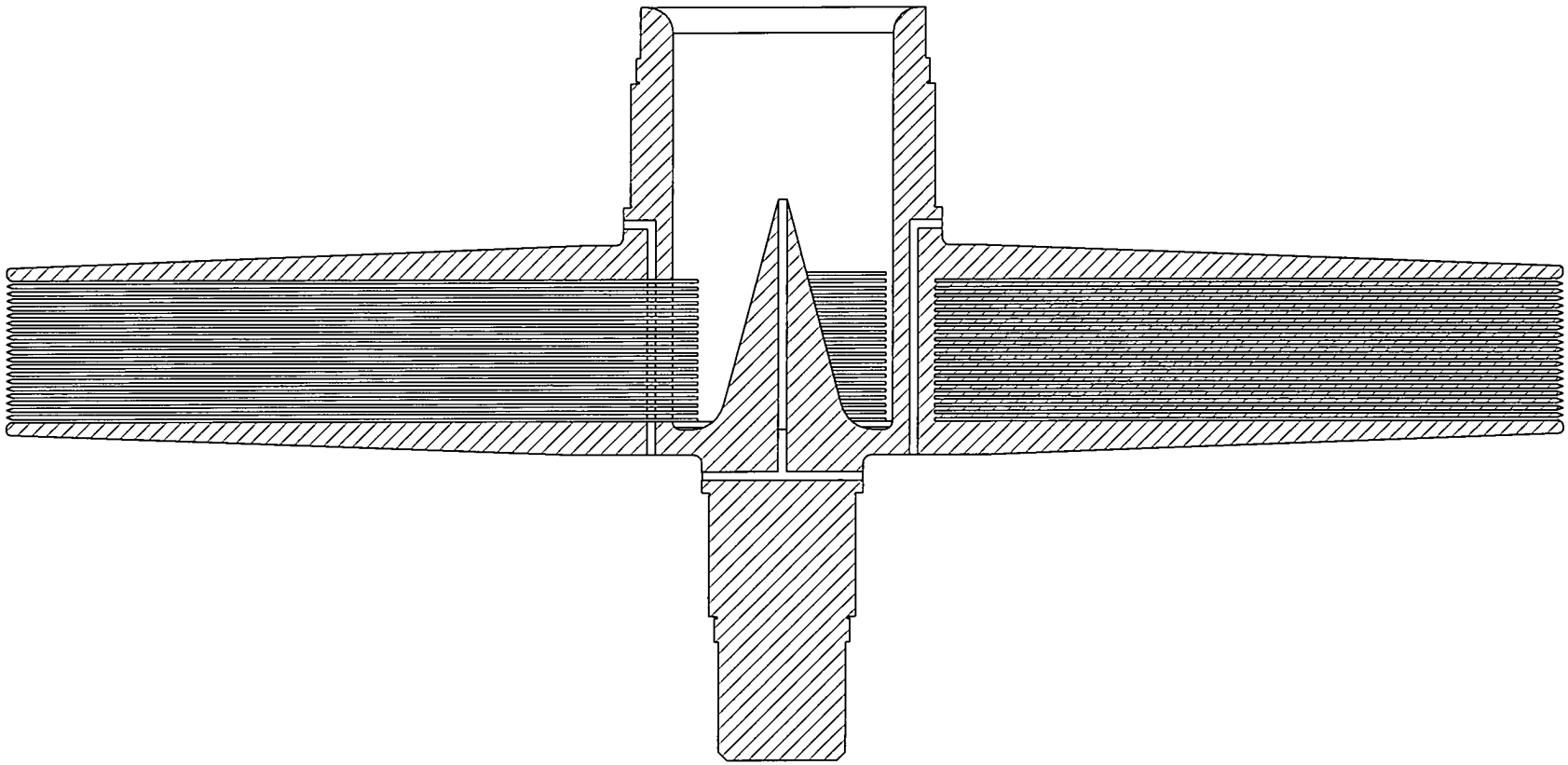

FIGURE 33

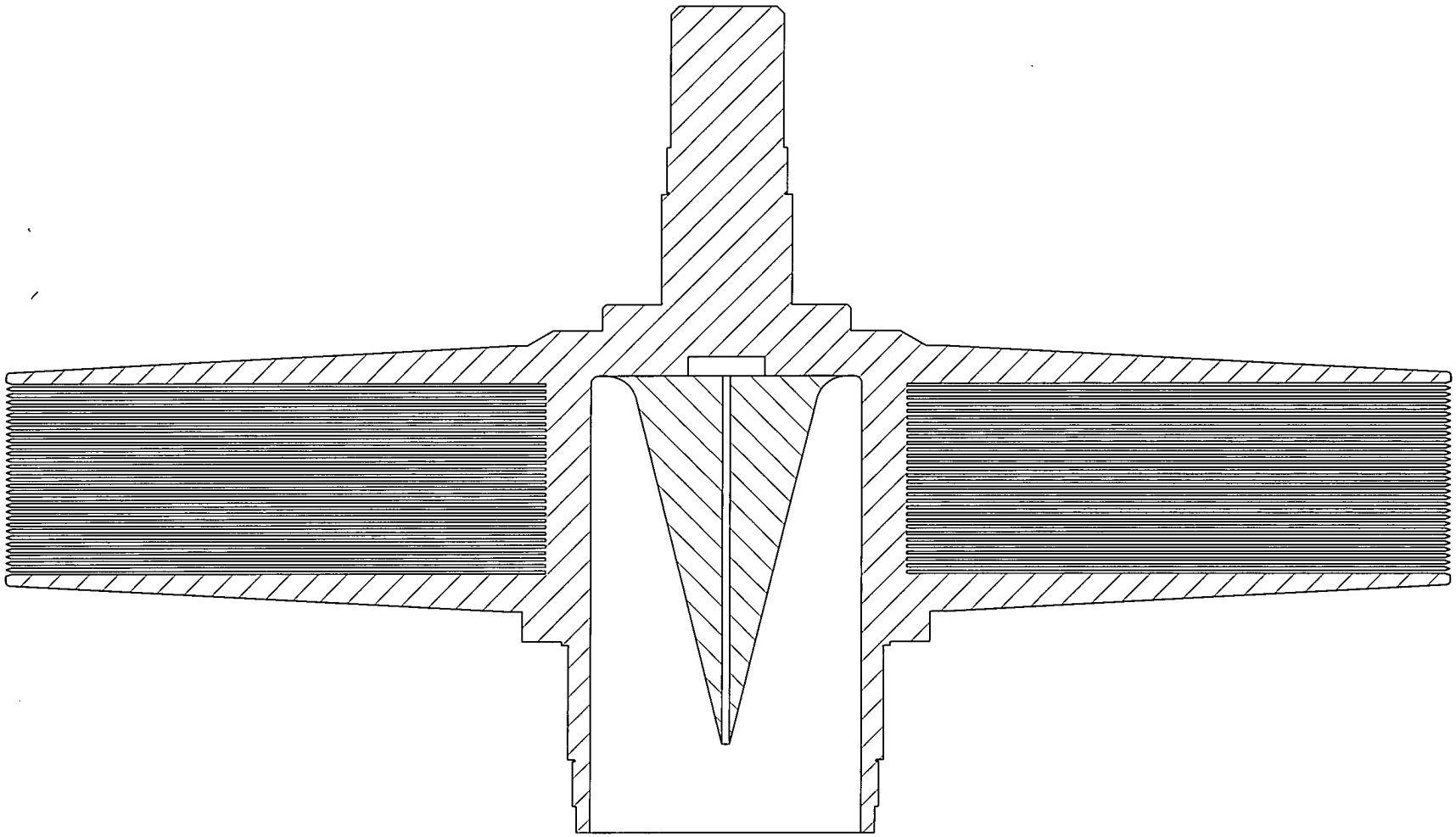

FIGURE 34

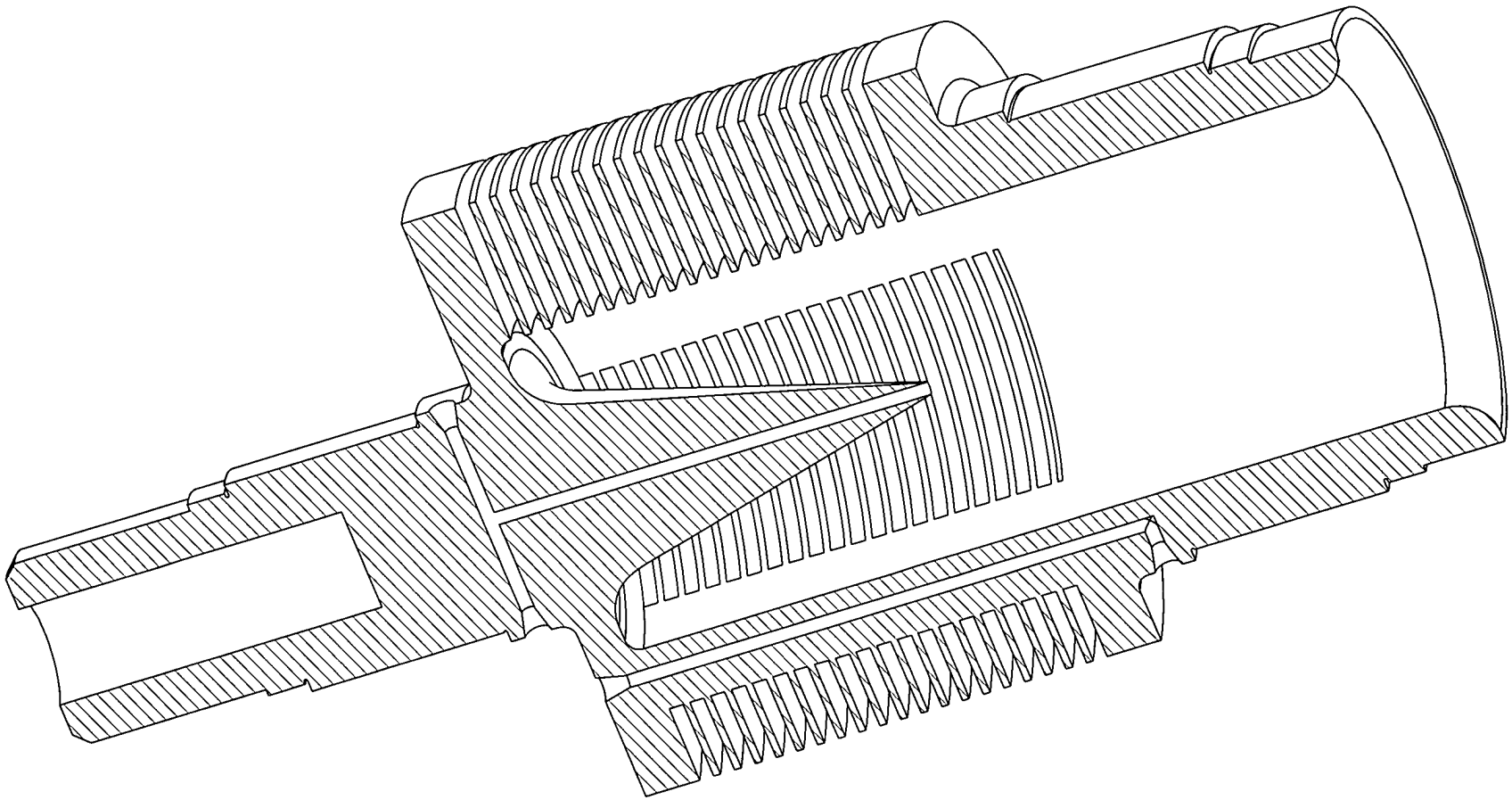

FIGURE 35

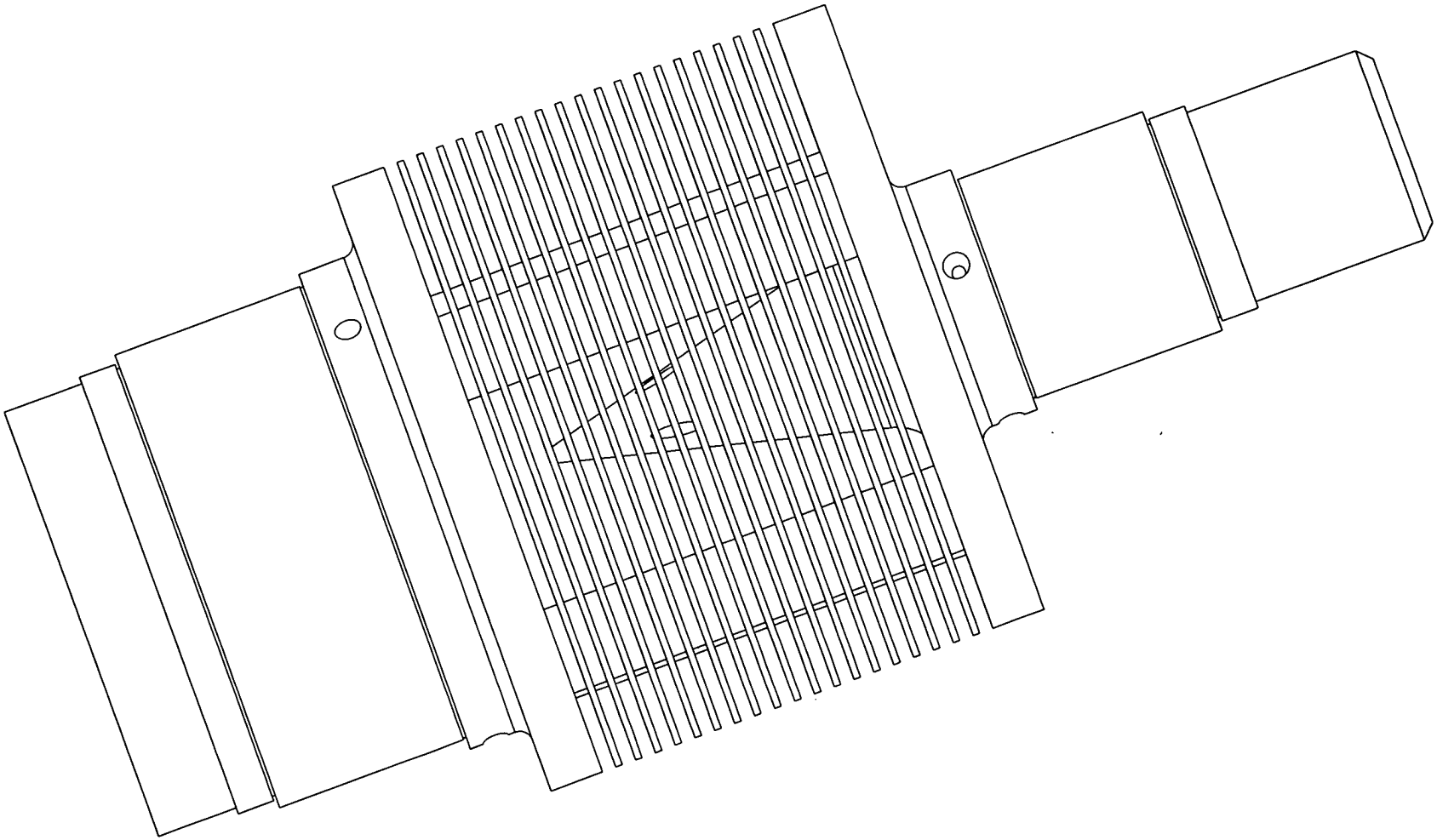

FIGURE 36

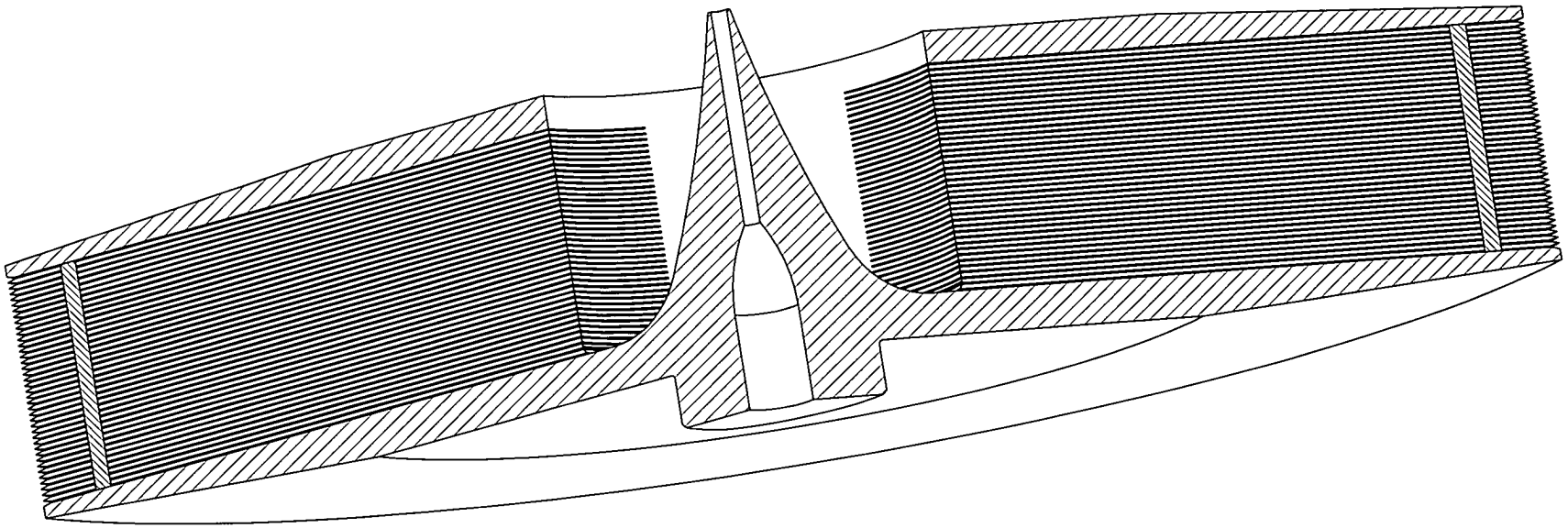

FIGURE 37

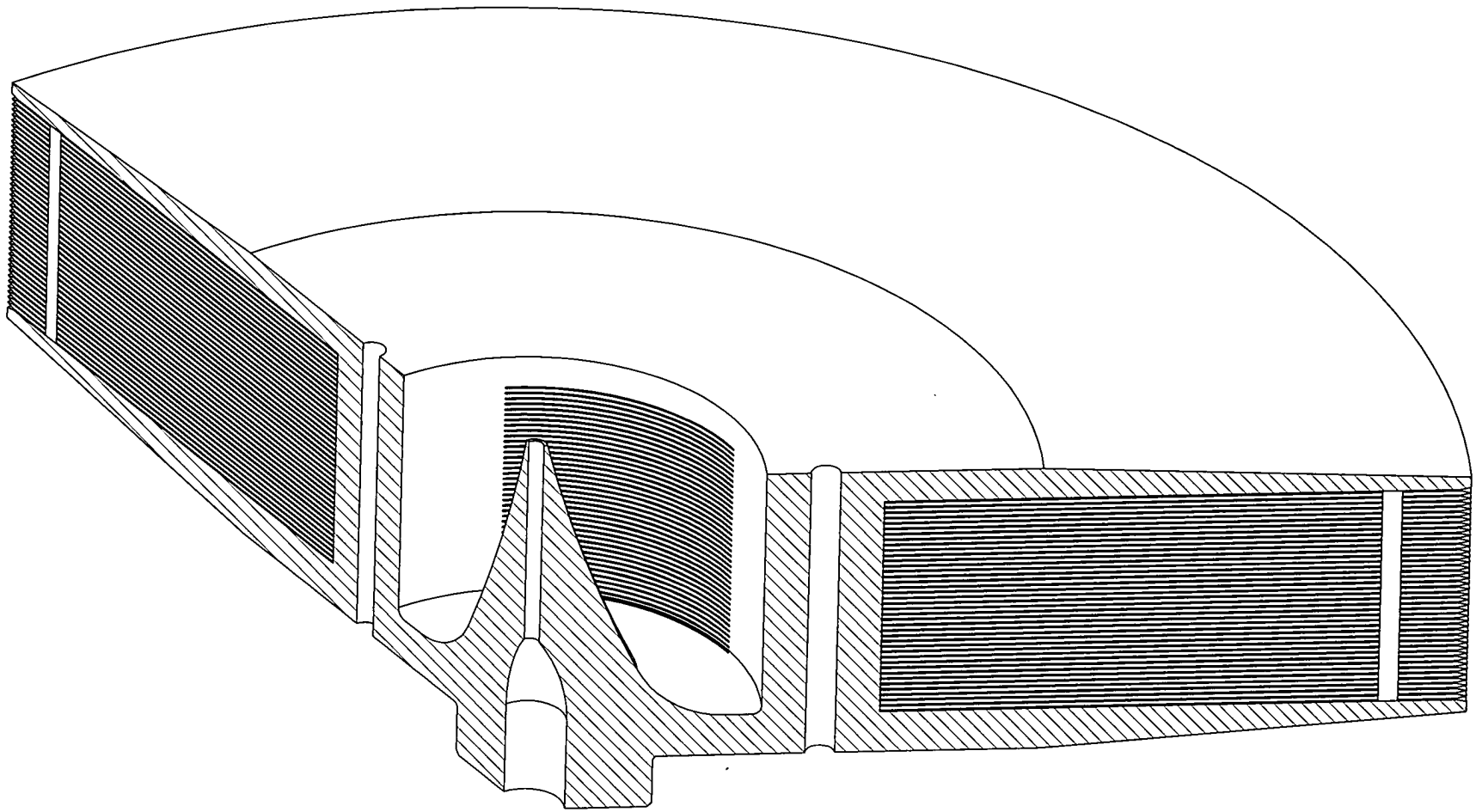

FIGURE 38

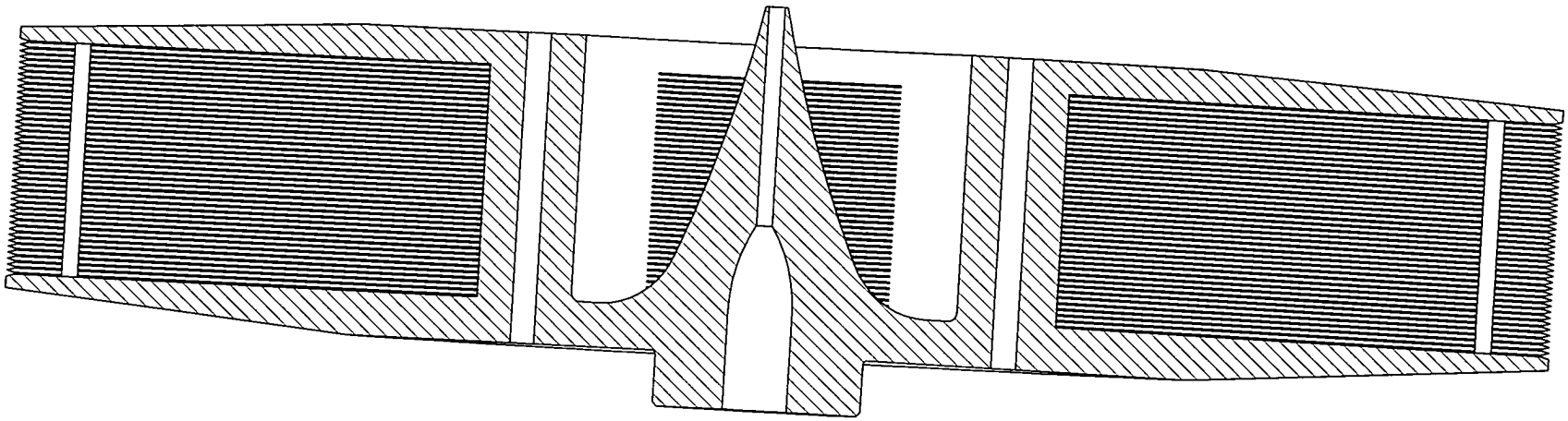

FIGURE 39

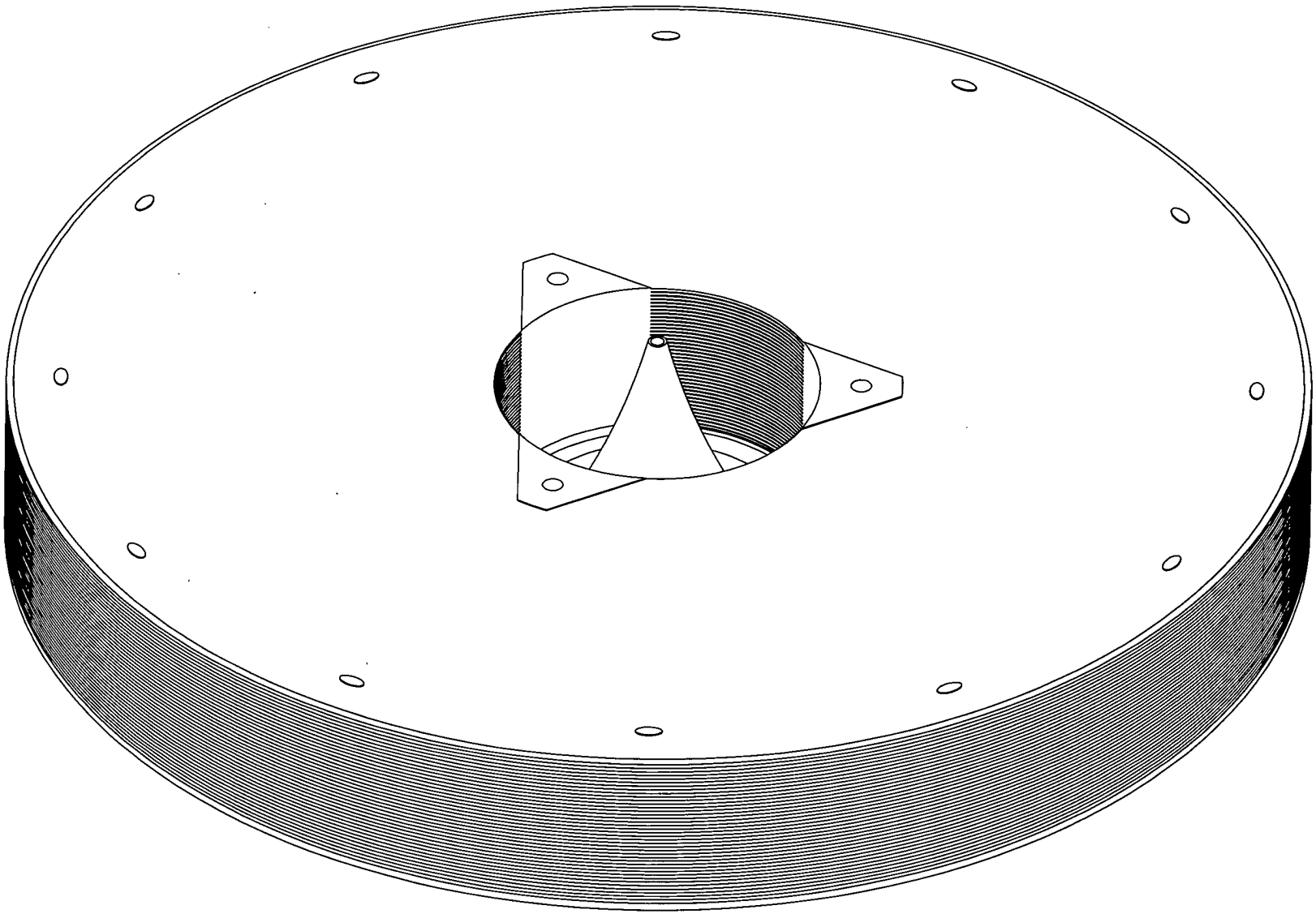

FIGURE 40